



3 1761 11973003 4




ROYAL COMMISSION ON FARM MACHINERY

# **SPECIAL REPORT ON PRICES**

CA1  
Z1  
-66F01

December 1969



Digitized by the Internet Archive  
in 2023 with funding from  
University of Toronto

<https://archive.org/details/31761119730034>

Cage

Canada. Royal Commission on  
Farm machinery  
Special report



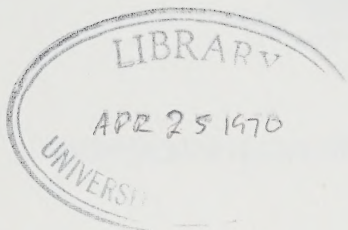




ROYAL COMMISSION ON FARM MACHINERY

**SPECIAL REPORT**  
**ON**  
**PRICES OF TRACTORS AND COMBINES**  
**IN CANADA AND OTHER COUNTRIES**

Dr. Clarence L. Barber, Commissioner  
December, 1969



© Crown Copyrights reserved  
Available by mail from the Queen's Printer, Ottawa,  
and at the following Canadian Government bookshops:

HALIFAX  
1735 Barrington Street

MONTREAL  
Æterna-Vie Building, 1182 St. Catherine Street West

OTTAWA  
Daly Building, Corner Mackenzie and Rideau

TORONTO  
221 Yonge Street

WINNIPEG  
Mall Center Building, 499 Portage Avenue

VANCOUVER  
657 Granville Street

or through your bookseller

Price 2.50      Catalogue No. Z1-1966/4-1-1

Price subject to change without notice

Queen's Printer for Canada  
Ottawa, 1969



ROYAL COMMISSION ON FARM MACHINERY

TO HIS EXCELLENCY

THE GOVERNOR GENERAL IN COUNCIL

I, the Commissioner, appointed by Order in Council P.C. 1966-978 dated 26th May, 1966, to inquire into the costs of machinery and repair parts: Beg to submit to Your Excellency the following Report.

A handwritten signature in cursive script, reading "Clarence L. Barber".

Clarence L. Barber  
COMMISSIONER

December, 1969





## ORDER IN COUNCIL

P.C. 1966-978

Certified to be a true copy of a Minute of a Meeting of the Committee of the Privy Council, approved by His Excellency the Governor General on the 26th May, 1966.

The Committee of the Privy Council, on the recommendation of the Right Honourable Lester Bowles Pearson the Prime Minister, advise that Clarence Lyle Barber of the City of Winnipeg, Province of Manitoba, be appointed a Commissioner under Part I of the Inquiries Act to inquire into the costs of farm machinery and repair parts and, in particular, without limiting the generality of the foregoing, to consider and report upon

- (1) the factors affecting the price to the user of agricultural machinery and equipment and parts in Canada including full reference to the impact of financing, distribution and servicing costs on the total price of the user;
- (2) the costs to the user of agricultural machinery in Canada as compared with the costs of similar equipment to users in other countries, both in absolute terms and in relation to total costs;
- (3) the present and prospective competitive position of the Canadian agricultural machinery industry in Canadian and in export markets as compared with agricultural machinery industries in other countries, including an examination of research and development activity and its relationship to the establishment of new facilities in Canada;
- (4) the historical and present relationship between the price and the productivity of agricultural machinery;
- (5) measures that would contribute to the expansion of efficient production of agricultural machinery, the attainment of technological advances, the improvement of distribution, financing and servicing facilities and the enhancement of the industry's competitive position so that Canadian farmers would be ensured most favourable prices for, and availability of, machinery and parts.

The Committee further advise

- (a) that the Commissioner be authorized to exercise all the powers set out in section 11 of the Inquiries Act;
- (b) that the Commissioner be authorized to engage the services of counsel, technical advisers, experts and staff as may be required, at rates of remuneration, including transportation and living expenses as may be approved by the Treasury Board;
- (c) that the Commissioner adopt such procedure and methods as he may from time to time deem expedient for the proper conduct of the inquiry and sit at such times and at such places in Canada as he may decide from time to time;



- (d) that the Commissioner be assisted to the fullest extent by government departments and agencies; and
- (e) that the Commissioner report to the Governor in Council and file with the Dominion Archivist the papers and records of the inquiry as soon as reasonably may be after conclusion of the inquiry.

R. G. Robertson  
*Clerk of the Privy Council*

## TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS. . . . .	ix
1. INTRODUCTION . . . . .	1
2. WORLD PRODUCTION AND TRADE: TRACTORS AND COMBINES	3
3. THE STRUCTURE OF PRICES. . . . .	15
Dealer to Farmer Level. . . . .	16
Wholesaler to Dealer Level . . . . .	17
Manufacturer to Wholesaler Level. . . . .	19
The Structure of Prices in Different Countries. . . . .	19
4. INTERNATIONAL PRICE COMPARISONS: TRACTORS AND COMBINES . . . . .	21
5. PRICE DIFFERENCES BETWEEN COMPANIES IN CANADA FOR TRACTORS AND COMBINES . . . . .	47
Tractors . . . . .	47
Combines . . . . .	58
6. MANUFACTURING COSTS AND INTERNATIONAL PRICES. . . . .	61
Economies of Scale in Tractor Production . . . . .	61
Manufacturing Costs and Prices by Size of Tractor. . . . .	63
Comparison of Manufacturing Costs in North America and Western Europe . . . . .	66
Profit Differences for Identical Tractors Sold in Canada and Britain . . .	72
7. SEPARATION OF MARKETS. . . . .	77
How Markets Are Separated . . . . .	77
1. Natural Barriers . . . . .	78
2. Company Barriers . . . . .	78
Market Separation — The British Dealers' Viewpoint . . . . .	83
Market Separation — The Viewpoint from Canada. . . . .	87
8. SUMMARY AND RECOMMENDATIONS. . . . .	91
Recommendations. . . . .	95
APPENDIX A: PRICE, DISCOUNT, AND MANUFACTURING COST LEVELS IN CANADA AND OTHER COUNTRIES. . . .	99
Dealer Discounts in Selected Countries . . . . .	99
Trade Discount . . . . .	99
Incentive Discounts . . . . .	99
Dealer Discount . . . . .	99
Prices Paid by Farmers for New Machines and Realized Dealer Margins in the United States . . . . .	101
Price Paid by Farmers for New Machines and Realized Dealer Margins in Canada . . . . .	103
Price Paid by Farmers for New Machines and Realized Dealer Margins in Britain . . . . .	105

	Worldwide Manufacturing Costs . . . . .	105
	U.S. Manufacturing Costs . . . . .	107
APPENDIX B:	METHODS FOLLOWED IN PREPARING INTER- NATIONAL PRICE COMPARISONS FOR TRACTORS AND COMBINES . . . . .	109
	Methodology of Price Comparisons . . . . .	109
	Point-in-Time Analysis . . . . .	111
	Option Price Estimates . . . . .	111
	Machine Specification Problems . . . . .	111
APPENDIX C:	METHODS FOLLOWED IN PREPARING INTER- COMPANY PRICE COMPARISONS FOR TRACTORS AND COMBINES SOLD IN CANADA . . . . .	143
APPENDIX D:	RELATIVE COSTS AND PROFITS OF TRACTOR MANUFACTURING AND DISTRIBUTION, NORTH AMERICA (CANADA) AND BRITAIN . . . . .	163
	Costs of Tractor Manufacturing . . . . .	169
	Comparative Post-Production Costs, Britain and Canada . . .	169
	1) Price Paid by the Farmer for Tractors . . . . .	170
	2) Net Wholesale Price (net selling price to the dealer) . .	170
	3) Ocean Freight: Britain to Canada . . . . .	175
	4) Company Inventory Carrying Cost . . . . .	176
	5) Dealer Floor Plan — New Machines . . . . .	177
	6) Other Inventory Finance Costs — Canada Only . . . . .	177
	Free Season of Use Finance Plan . . . . .	177
	7) Selling, General and Administrative Expenses . . . . .	178
	Canada . . . . .	178
	Britain . . . . .	178
	8) Research and Development (R&D) . . . . .	178
	Profit Differentials between Canada and Britain . . . . .	180
	Technical Note to Appendix D — Procedures Used to Estimate Production Costs in Britain . . . . .	182
	1) Adjustments to Study Data . . . . .	182
	2) Details of Cost Analysis Used To Bring Basic Data to British Cost Levels . . . . .	183
	3) Adjustments to Costs after Basic Analysis . . . . .	198
APPENDIX E:	MAIN BODY OF LETTER RECEIVED FROM MULTI- NATIONAL FARM MACHINERY COMPANY RE: SEPARATION OF MARKETS . . . . .	201
APPENDIX F:	DOCUMENTS SUBMITTED BY ONTARIO FEDERATION OF AGRICULTURE IN CONNECTION WITH THE IMPORTATION OF TRACTORS . . . . .	205
	LIST OF TABLES . . . . .	233
	LIST OF APPENDIX TABLES . . . . .	237
	LIST OF FIGURES . . . . .	239

## ACKNOWLEDGEMENTS

A carefully documented Report such as the present one could only have been prepared with the assistance of a great many people. To all of those who co-operated in this endeavour I would like to express my deep appreciation.

In particular the Report owes a great deal to the initiative and perseverance of Mr. Neil B. MacDonald, the Commission's Director of Research. He accepted much of the burden of planning and developing the price comparisons that form the bulwark of this Report. It was his energy and careful analysis, too, which made possible the cost comparisons that provided a strong underpinning to some of the key conclusions contained in this Report. In this work he was ably assisted by Mr. Bernard Barry who carried through many of the detailed tractor and combine price comparisons.

A great deal of assistance was provided as well by many organizations and individuals outside of the Commission's staff. The farm machinery manufacturers provided price lists and specification data and reviewed and checked many of the results. Commercial Counsellors and Secretaries in Canadian Missions abroad secured price and specification data on farm machinery sold in other countries. An anonymous group of British farm machinery dealers provided real insight into the powers of the farm machinery companies to separate their markets in different countries. Officials of the Ontario Federation of Agriculture, in particular Mr. David Crone and Mr. James Jacklin, provided the Commission with valuable information on the problems they have encountered in importing tractors from Britain. The kindness and co-operation of all of them not only facilitated but indeed made possible the production of this Report.

Many individuals on the Commission's staff helped to organize the data into coherent form. In particular mention should be made of Mr. Frank Joss, Mr. Bryan Lafrance, Mr. Michael Lum, Miss Jean Morse, Mr. Bruce Narsted, Mr. Ronald Nkomba and Mr. Bohumir Pazderka. To all of these I would like to express my thanks.

The analysis contained in this Report has also benefited greatly from the critical and often penetrating comments made by a number of the Commission's research staff. In particular, I would like to acknowledge the contribution made by Mr. W. F. Barnicke, Mr. G. F. Donaldson, Mr. D. Martinusen and Dr. David Schwartzman. Particular acknowledgement should also be made to the Commission's counsel, Mr. R. H. McKercher, Q. C.

Finally, I would like to acknowledge the very competent work done by the secretarial, clerical, and administrative staff of the Commission. Their patience and persistence in checking, typing, and proofreading the mass of detail contained in the Report and the competent supervision provided by Mrs. E. Dawe have been greatly appreciated. The capable editorial assistance provided by Mr. Don Hanright also deserves particular notice. At all times the Commission's work has benefited from the cheerful and competent support provided by its Administrative Secretary, Miss Lois Culpan.





## Chapter 1

### INTRODUCTION

Canadian farmers have long complained that it was possible to buy tractors more cheaply in England than in Canada. Such a claim was made before the House of Commons Committee<sup>1</sup> investigating farm machinery prices in 1960. As long ago as 1952 a United Nations report stated "on the basis of retail sales prices, prices in the United Kingdom appear to be lower than in the United States. For example, the Ford tractor produced in the United States was priced at . . . \$1,329. The cost of a Ferguson tractor, which is very similar, produced in the United Kingdom was priced at . . . \$940."<sup>2</sup> The contention was repeated by farmers and farm organizations during the Commission's public hearings.

In its terms of reference this Commission was asked to inquire into "the costs to the user of agricultural machinery in Canada as compared with the costs of similar equipment to users in other countries, both in absolute terms and in relation to total costs". Two of the most important agricultural machines purchased by farmers are tractors and combines. In view of this provision in its terms of reference and in the light of the farmers' complaints, the Commission launched an investigation of the prices of tractors and combines in Canada and a number of other countries. During its public hearings in Ottawa the Commission discussed the price differences it had found with a number of the companies. The data and arguments presented at the hearings were briefly summarized in *Farm Tractor Prices in Canada Compared with Those in England and Other Countries*,<sup>3</sup> a paper prepared for the Canadian Agriculture Congress held in Ottawa in March 1969. Meanwhile, during 1968, the Ontario Federation of Agriculture began to import tractors from England on behalf of some of its members. Although the Federation has encountered difficulty in getting tractors to import, some tractors are still being imported.

This Report summarizes the Commission's findings on recent differences in prices of tractors and combines between Canada, the United States, Britain, and a number of other countries. The emphasis is mainly on tractors because this is the only farm machine that is shipped across the ocean, and indeed throughout the world, in substantial volume. Some attention is also given to combines because a significant volume of imports into North America from Western Europe has recently developed. Comparisons covering nine countries are made for the 1966 or 1967 selling season. However, the price differences existing at that time subsequently widened as a result of the devaluation of sterling in late 1967. For that reason, a more recent comparison was made for tractors in Canada and Britain.

---

<sup>1</sup>Canada, House of Commons, Standing Committee on Agriculture and Colonization, *Minutes of Proceedings and Evidence Nos. 1-13*, 24th Parliament, 3rd Sess., 1960.

<sup>2</sup>United Nations Economic Commission for Europe, Industry and Material Division, *The European Tractor Industry in the Setting of the World Market* (Geneva, 1952).

<sup>3</sup>C. L. Barber, *Farm Tractor Prices in Canada Compared with Those in England and Other Countries*, prepared for the Canadian Agriculture Congress by the Royal Commission on Farm Machinery (Ottawa, 1969).

Price data were collected with the help of Canadian Trade Commission offices in the various countries, from the Canadian subsidiaries of the farm machinery companies, and from standard industry sources.<sup>4</sup> Many of the comparisons were submitted to the companies for verification and were accepted by them as accurate.

To help evaluate the price differences between countries, this Report attempts to view the problem within a broad framework. Chapter 2 provides an outline of the structure of world production and trade in tractors and combines. Some attention is given both to the current pattern and its historical development.

Chapter 3 describes the price structures of the different countries. The prices that have received the most attention in public discussion are the company "list prices" or "suggested retail prices". However, since farmers often pay substantially less than this, it is necessary to examine discount practices in different countries. Also singled out for major attention is the wholesale or dealer price. Where the machinery companies perform the wholesale function, the "dealer price" is the amount received by the company. Margins between list prices and dealer prices also vary from country to country.

Chapter 4 outlines the Commission's findings on international price differences in tractors and combines, appraises the reasons advanced by the farm machinery companies for these differences, and evaluates the quantitative importance of the differences to the Canadian farmer.

Some perspective is needed as to where and how tractors and combines imported from Europe fit into the Canadian picture. To provide this, Chapter 5 compares the "list prices" of the different companies for the various sizes of tractors and combines currently being sold in Canada. For tractors, comparisons are also made of price per horsepower.

Some data were available to the Commission on tractor production costs in North America and Western Europe. Chapter 6 analyzes these data and provides some assessment of the difference in profits earned by individual companies on their tractors sold in Canada, compared with those sold in Britain. It also measures the profitability of tractors of different sizes.

To maintain the price differences that exist between countries, farm machinery companies have had to take administrative steps to prevent tractors moving from lower- to higher-priced markets. Chapter 7 describes some of the methods used by the companies to keep their markets separate, and in particular, outlines some of the difficulties the Ontario Federation of Agriculture has faced in importing tractors from Britain.

Finally, Chapter 8 advances some reasons for the existence of these price differences and considers what steps could be taken to reduce them. The Report concludes with the Commission's recommendations to the Government for possible steps that might be taken to reduce or eliminate these price differences.

In a report of this nature, where detailed and painstaking comparisons were made of tractor and combine prices in many different countries, it is almost inevitable that some minor errors may occur. Still, the Commission is confident that any errors that do come to light will not change in any way the general picture presented in this Report or the conclusion drawn therefrom.

---

<sup>4</sup> *Implement and Tractor, Farm Equipment Red Book* (Kansas City, Missouri: Implement and Tractor Publications Inc., published annually).  
*National Farm Tractor and Implement Blue Book Valuation Guide* (Chicago, National Market Reports Inc., published annually).

## Chapter 2

### WORLD PRODUCTION AND TRADE: TRACTORS AND COMBINES

An analysis of world production and trade in wheeled tractors and combines in recent years shows the following characteristics or trends:

1. Production and trade in wheeled tractors is dominated by a small number of North American international corporations with major manufacturing plants in Western Europe and North America, and smaller assembly-type operations around the world.

In addition, in many countries, a number of smaller firms produce and trade on a more regional basis.

2. Over the past 25 years, there has been a substantial decline in the share of the world market supplied by North American producers of wheeled tractors, and a corresponding increase in the share supplied by producers in Western Europe.

3. Although the pattern varies from country to country, in many countries the market for wheeled tractors is highly concentrated, with the major international firms having a dominant share of the market.

4. The pattern of production and trade in combines has some of the same characteristics as tractors, with many of the same companies having a dominant position. However, trade is more regional in character, and production volume is much smaller.

A broad outline of the worldwide pattern of wheeled tractor production by country and major company is given in Table 2.1. These data, which are approximate only, and limited to non-Communist countries, show that Massey-Ferguson, International Harvester, and Ford, account for just under half of total production. The next three firms, Deere, Fiat, and Renault (or David Brown), account for an additional 17 per cent of the total. The balance is distributed among a large number of smaller firms. Two of the largest three firms, Ford and Massey-Ferguson, have integrated their production of components on a worldwide basis. Ford's production is completely integrated, so that no major component is produced in more than one plant. Massey-Ferguson's output also is largely integrated, but less so than Ford's. International Harvester is reported to have recently integrated its European tractor manufacturing operations so that major components are produced in one plant only, but its North American tractor operations are still on a completely independent basis. Deere's major production is still in North America. It is estimated that in 1966 North America accounted for about one-third of wheeled tractor production in the non-Communist world with most of the balance being produced in Western Europe. Britain is the largest producer in Western Europe, accounting for 210,000 units in 1966 or about 26 per cent of the total in Table 2.1. The Federal Republic of Germany produced 101,000 tractors, France 65,000, and Italy 49,000.

TABLE 2.1—WORLD PRODUCTION OF WHEELED TRACTORS, ACTUAL AND ESTIMATED, 1966  
(Except U.S.S.R., China, and East European Countries)  
(Thousands of units)  
*Figures in italics are estimates*

Company Ranking <sup>1</sup> According to Market Share	World	U.S.A.	Britain	Federal Republic of Germany	France	Italy	Belgium	Sweden	Spain	India	Austria	Australia	Japan	Brazil	Finland	Others
Massey-Ferguson <sup>2</sup>	153.8	38.8	78.6		29.2	3.2 <sup>14</sup>								4.0		
Ford <sup>3</sup>	118.4	38.6	57.1 <sup>7</sup>				22.7									
International Harvester	108.0	62.0	21.0 <sup>8</sup>	15.0	8.5 <sup>11</sup>							1.5				
Deere	78.0	60.0		18.0												
Fiat (Fiat + Someca)	41.5				6.5 <sup>12</sup>	35.0										
Renault/Porsche	19.0				19.0 <sup>11</sup>											
David Brown	18.5		18.5 <sup>8</sup>													
J.I. Case	17.5	17.5														
Deutz	17.0			17.0												
Allis-Chalmers	15.5	15.5														
Brit. Leyland (Nuffield)	15.0		15.0 <sup>8</sup>													
Volvo	14.7							14.7								
Oliver (Cockshutt) <sup>4</sup>	15.0	15.0 <sup>5</sup>														
Minneapolis-Moline <sup>4</sup>	7.0	7.0														
Valmet	4.0													.9	3.1	
Other (known companies)	9.4								6.0 <sup>17</sup>	3.4 <sup>19</sup>						
Other (not identified)	157.2	15.6	20.2	51.0	2.1	10.8			7.1	8.6	11.7	9.3	9.7	1.1		10.0
World Total	809.5	270.0 <sup>6</sup>	210.4 <sup>9</sup>	101.0 <sup>10</sup>	65.3 <sup>13</sup>	49.0 <sup>15</sup>	22.7	14.7 <sup>16</sup>	13.1 <sup>18</sup>	12.0 <sup>20</sup>	11.7 <sup>21</sup>	10.8 <sup>22</sup>	9.7 <sup>23</sup>	6.0	3.1 <sup>24</sup>	10.0 <sup>25</sup>

<sup>1</sup> The ranking for the first six companies was taken from the book by E.P. Neufeld, *A Global Corporation* (University of Toronto Press, 1969), p. 14.

<sup>2</sup> *Ibid.*, pp. 283-85.

<sup>3</sup> This figure was obtained by using Ford's Annual Report for 1968 and information provided by the Company through letters, telephone calls, and meetings.

<sup>4</sup> Oliver (Cockshutt) and Minneapolis-Moline shown separately because completely self-contained manufacturing operations were in effect in 1966.



TABLE 2.1 (Concluded)

- 5 This figure received by the Royal Commission on Farm Machinery in letter dated August 20, 1969, from White Farm Equipment.
- 6 U.S. Department of Commerce, Bureau of the Census, *Current Industrial Reports, Tractors, Except Garden Tractors 1967, Series M35S(67)-13*, (Washington D.C., 1968).
- 7 Ford Motor Co. of Canada states, "Additionally, tractors are assembled from varying degrees of 'knocked down' condition at 27 other locations throughout the world, from assemblies drawn mainly from Basildon". *Submission of Ford Motor Co. of Canada Ltd., Tractor and Equipment Operations, to the Royal Commission on Farm Machinery* (1967), p. 8. 'Knocked down' is an industry term meaning components which are packed in complete sets at a manufacturing location, which can be put together with relatively unskilled labour and low cost facilities at their destination into complete tractors.
- 8 In 1964, British production for IHC was 30,000, for David Brown 20,000, and for Nuffield 15,000 as given in the article "How to Sell a Tractor," *The Economist* (June 5, 1965), p. 1187. The Commission has chosen figures relating more closely to other confidential data and to the year 1966 rather than 1964.
- 9 The British figure 210,400 was arrived at by taking the total tractor production in 1966, 214,800, and deducting the tracklaying tractor production in 1965, 4,400. Organization for Economic Co-operation and Development (O.E.C.D.), *The Engineering Industries in North America, Europe, Japan, Delivery Statistics for Selected Engineering Products* (Paris, 1967), Tables IV.6 and IV.7.
- 10 "Germany's Year of Crisis," *Farm Implement and Machinery Review* (June 1, 1968), p. 462.
- 11 Ministère de l'Agriculture, Direction Générale de l'Espace Rural, Centre National d'Études et d'Expérimentation de Machinisme Agricole, *Bulletin d'Information mars-avril 1967*, p. 60.
- 12 *Ibid.*
- 13 Institut National de la Statistique et des Études Économiques, *Annuaire Statistique de la France 1967*, Chapitre 20B, Tableau II, p. 351.
- 14 This is the figure after the deduction of 2,800 crawler tractors, Neufeld, *op. cit.*, p. 353.
- 15 This figure, 49,000, was arrived at by taking the total tractor production in 1966, 66,000, and deducting the tracklaying tractor production in 1964, 17,000, O.E.C.D., *loc. cit.*
- 16 The National Central Bureau of Statistics, *Statistical Abstract of Sweden* (Stockholm, 1968), Table 97, p. 122.
- 17 This figure is for Ebro tractor production in 1964. Neufeld, *op. cit.*, p. 346.
- 18 This figure is for total tractor production in 1965. Data on tracklaying tractors, if included in this figure is not available on separate table. Therefore, the total tractor production figure was assumed to be the wheeled tractor production figure, O.E.C.D., *loc. cit.*
- 19 Neufeld, *op. cit.*, p. 335.
- 20 Figure supplied to the Royal Commission on Farm Machinery by the Office of the High Commission of India.
- 21 This figure is for 1965. O.E.C.D., *loc. cit.*
- 22 This figure, 1962-63 wheeled tractor production, may be high, if it includes Ford tractors assembled in Australia which are counted in Ford statistics for England as knocked down tractors. Commonwealth Bureau of Census and Statistics, *Secondary Industries, Part II, Materials Used and Articles Produced 1962-63, Bulletin No. 57* (Canberra, 1966), Table 3, p. 142.
- 23 This figure is for 1965. It was obtained by taking the total tractor production and deducting the tracklaying tractor production. O.E.C.D., *loc. cit.*
- 24 This figure is for 1963. O.E.C.D., *loc. cit.*
- 25 This is the allowance for other countries such as Portugal (production in 1966 - 200), *ibid.*, Denmark (production in 1963 - 3,500), Switzerland (production in 1963 - 2,500), and others. R. Carillon, *L'Agriculture, Certe Industrie Moderne*, Encyclopédie par l'Image, (1966), p. 44.



To a large degree, tractor production in North America is concentrated in the larger horsepower sizes of tractor. Over two-thirds of the wheeled tractors produced in the United States in 1967 were of 50 HP or more, and about 43 per cent were 70 HP and more. This contrasts strongly with the pattern of production as recently as 1953 when some 62 per cent of all tractors were under 35 HP.

TABLE 2.2—WHEELED TRACTOR PRODUCTION, UNITED STATES,  
BY HORSEPOWER SIZE, 1953 AND 1967

PTO HP	1953		1967	
	Number	Percentage	Number	Percentage
9 – 34	243,190	62.3	16,543	6.8
35 – 49	58,789	15.1	63,205	26.1
50 – 69			59,048	24.4
70 – 89	88,406	22.6	31,693	13.1
90 – 99			51,582	21.3
100 and over			20,144	8.3
Total	390,385	100.0	242,215	100.0

Source: U.S. Department of Commerce, Bureau of the Census, *Current Industrial Reports, Tractors, Except Garden Tractors 1967, Series M35S(67)-13* (Washington D.C., 1968). U.S. Department of Commerce, Bureau of the Census, *Facts for Industry, Tractors, Summary for 1953, Series M37B-03* (Washington D.C., 1954).

A similar concentration in the higher horsepower category is evident in U.S. exports of wheel-type tractors. In 1967 almost half of U.S. exports by value were tractors of 80 HP and over; and almost three-quarters were 60 HP and over. Canada, Australia, and New Zealand took almost 80 per cent of U.S. tractor exports.

TABLE 2.3—U.S. EXPORTS, WHEELED AGRICULTURAL TRACTORS,  
BY COUNTRY OR REGION, AND SIZE OF TRACTOR, 1967

	Total	Canada	South and Central America	Australia and New Zealand	All Other
	(Thousand dollars)				
Under 40 HP	10,931	9,099	430	97	1,305
40 to 60 HP	25,140	16,680	4,433	932	3,095
60 to 80 HP	35,728	26,498	3,731	2,149	3,350
80 to 100 HP	41,567	28,809	4,630	4,750	3,378
100 HP and over	23,659	14,935	3,658	2,876	2,190
Total	137,025	96,021	16,882	10,804	13,318
Percentage	100.0	70.1	12.3	7.9	9.7

Source: U.S. Department of Commerce, Bureau of the Census, *U.S. Exports, Schedule B Commodity and Country* (Washington D.C. 1967), pp. 279–281.

As the demand for larger tractors has increased, there has been a pronounced shift towards the use of diesel tractors. In contrast with Western Europe where the high cost of fuel led to a much earlier use of diesel tractors, this trend came

relatively recently in North America. In 1951, for example, it has been estimated that only 4 per cent of the wheeled tractors produced in the United States were powered by diesel engines, compared with 50 per cent at that time in Western Europe. As a result, it has been only in relatively recent years that diesel tractors have been produced in any substantial volume in the United States. As recently as 1957, total production of diesel-type wheeled tractors was only 37,400, and annual production did not exceed 80,000 until 1962. Given the fact that in trucks and many other applications there was a much earlier utilization of diesel engines in Western Europe than in the United States, North American producers must have found themselves relatively short on experience and knowledge in the manufacturing and application of diesel engines. In addition, the small over-all volume of diesel tractors produced until relatively recently has meant that each manufacturer has had comparatively short production runs on diesel engines.

In contrast with the United States, European production is more largely concentrated in the under 60 HP category, and European manufacturers (including subsidiaries of North American companies) dominate the European market, where the demand is mainly for lower-horsepower tractors. Tractors from Europe are also supplied to markets throughout the world. Imports from Europe have been a much more significant factor in the Canadian market than in the United States. In 1967, for example, Canada imported more than 11,000 tractors from Western Europe compared with the 7,600 imported by the United States. Yet the total U.S. tractor market is some six or seven times as large as the Canadian market. Some of this difference reflects the fact that Ford largely supplies the Canadian market with tractors produced in England, but assembles tractors for the U.S. market in Detroit, using components largely imported from Europe. However, the difference also probably reflects the strong preference in the United States for a row-crop-type tractor, which has not been produced or used extensively in Western Europe.

Development of the farm tractor was pioneered in North America, and prior to the Second World War, North American producers dominated the world market for tractors. In 1937, for example, it is estimated that 310,000 tractors were produced in the non-Communist world and of these, 87 per cent were produced in the United States, 6 per cent in Britain, and 5 per cent in Germany, leaving about 2 per cent for all other countries. Since 1945, however, apart from a brief spurt at the end of the war, the U.S. share of world production has been steadily declining (Table 2.4).

This is particularly true for the total number of tractors. In 1950 the United States still accounted for 70 per cent of total output but by 1966 its share was less than 33 per cent. Even for this output, two of the major producers, Ford and Massey-Ferguson, were importing major components from Western Europe. In contrast, Britain became a major world supplier of tractors, increasing its share of production from 6 per cent in 1937 to 15 per cent in 1950 and 31 per cent by 1962. Tractor production in Germany also increased rapidly after 1945, reaching 100,000 by 1954 and a peak of 140,000 in 1955. In addition, Italy and France were each producing about 50,000 units by the early sixties. Because the U.S. producers have been moving steadily to higher horsepower tractors—the average size of tractor sold in the United States increased from about 30 HP in 1950 to around 70 HP in 1967—their share of world production is larger in terms of horsepower

TABLE 2.4—WORLD TRACTOR PRODUCTION (EXCLUDING COMMUNIST COUNTRIES), SELECTED YEARS 1937 TO 1966

	1937	1951	1962	1966	1966
	(Thousand units)			(Percentage)	
United States	272	544	207	270	33
Canada	—	15	1	—	—
Britain	18	120	202	210	26
West Germany	16	58	101	101	12
France	2	14	57	65	8
Italy	2	8	49	49	6
Sweden	—	7	16	15	2
Australia	—	4	4	11	1
Total	310	773	650	810	100

Source: R.E. Linneman, *The United States Tractor Industry in Selected Foreign Markets*, (University of Illinois, 1964), University Microfilms for 1937, 1951, 1962 and Table 2.1 for 1966.

than units. In 1966 the United States still accounted for an estimated 45 per cent of the total horsepower produced in wheel-type farm tractors outside of the Communist countries.

This pronounced shift away from tractor production in North America and towards Western Europe is also evident in production data for Massey-Ferguson, including data for the Massey-Harris and Ferguson companies before amalgamation (Table 2.5).

TABLE 2.5—WORLD TRACTOR PRODUCTION, MASSEY-FERGUSON (INCLUDING PREDECESSOR COMPANIES), 1947, 1951, AND 1966

	1947		1951		1966	
	(000)	Percentage	(000)	Percentage	(000)	Percentage
North America	63	75	72	47	39	25
Europe	21	25	81	53	118	75
Britain	21	25	81	53	79	50
Total	84		153		157	

Source: E.P. Neufeld, *A Global Corporation* (University of Toronto Press, 1969), pp. 61, 283-5. Data include industrial wheeled tractors.

Thus, as the data in Table 2.5 show, North America accounted for 75 per cent of Massey-Ferguson's worldwide output in 1947 but only 25 per cent in 1966. In contrast, Western Europe's share had increased from 25 per cent to 75 per cent and the United Kingdom's share from 25 to 50 per cent. The contrast is evident, too, in terms of absolute output. Massey-Ferguson's output in Western Europe rose from 21,000 units in 1947 to 81,000 in 1951 and to a new peak of 118,000 in 1966. For North America output peaked at 72,000 units in 1951 and by 1966 had fallen to around 39,000 units.



Moreover, these data do not include the effects of the substantial flow of tractor components from England and France to North America. A large proportion of the components for all the tractors that Massey-Ferguson assembles in Detroit, including the diesel engines for all models and the axles and transmissions for all but the largest tractors, are manufactured in England or France. All of the tractors that Massey-Ferguson sells in Canada are assembled in Detroit.

Similar trends are evident in the tractor production operations of a number of other major firms. One example is the rationalization of manufacturing operations carried out by the Ford Motor Company within the past few years. As a result of this change, Ford now produces engines, front axles and hydraulic units for all its tractors in a new plant in Basildon, England. As well as this component production capacity, this plant also has an assembly capacity of 75,000 units. Another plant in Antwerp, Belgium, with an assembly capacity of about 31,000, produces 6- and 8-speed transmissions and rear axles, again for all of Ford's tractor operations. Still another plant at Highland Park, Michigan, produces 10-speed Select-O-Speed and 4-speed transmissions and assembles tractors for the U.S. market. This plant's assembly capacity is 45,000 units. In addition, Ford tractors are assembled from knocked-down components<sup>1</sup> in 27 other places throughout the world. Nearly all Ford tractors sold in Canada are assembled at the Basildon plant. No explanation has been given as to why the U.S. market is supplied from their plant near Detroit, but the Canadian market has a lower-cost source of supply. However, it may be partially related to the American farmers' supposed prejudice against imported machinery. The Detroit factory also produces industrial tractors, which are subject to duty, as well as some larger and special models not now produced in Britain.

Another major North American producer, Deere, acquired the Lanz Company at Mannheim, West Germany, in 1957 and currently imports its 510 and 710 models from that source for sale in the Canadian market. These models are not sold in the U.S. market. Again, International Harvester, which has been producing tractors in various countries of Western Europe (Britain, France, and Germany) since the early post-war years, imports the 434 Model it sells in Canada from its plant in Doncaster, England. Cockshutt of Canada, a wholly-owned subsidiary of the White Motor Company, has its Model 1250 tractor manufactured by Fiat in Italy. On the other hand, both Case and Allis-Chalmers manufacture all the tractors they sell in Canada in their plants in the United States.

Thus, two of the North American based companies supplying tractors to the Canadian market, Ford and Massey-Ferguson, have achieved large-volume European output, 100,000 units or more annually, for all the major components of their tractors. Two other major North American producers, Deere and International Harvester, have substantial but much smaller European tractor operations and have not attempted to integrate these in any way with their North American operations. Yet, another North American company, the White Motor Company, has taken advantage of lower-cost, large-volume European tractor production by buying and selling Fiat tractors under the Cockshutt and Oliver brand names. These tractors

---

<sup>1</sup> An industry term, meaning components which are packed in complete sets, at a manufacturing location, which can be put together with relatively unskilled labour and low cost facilities at their destination into complete tractors. "Completely knocked down" (CKD) means that no assembly of components occurs at the point of manufacturing; "Semi-knocked down" (SKD) means that sub-assemblies are shipped, ready for final assembly.

also receive minor changes in trim and appearance and the addition of North American tires to make them more marketable on this continent.

In addition, a number of European-based manufacturers are currently marketing tractors under their own brand name on this continent. David Brown and Nuffield in England both market their tractors in Canada and the United States. Deutz tractors from Germany and Volvo tractors from Sweden are sold by Canadian Cooperative Implements Limited (C.C.I.L.) in Western Canada and the Renault tractor from France is distributed by Coopérative Fédérée de Québec. Aside from the 80 HP Deutz and the 100 HP Volvo, the largest European-produced tractor currently sold in Canada is the 65 HP David Brown.

This rough sketch of production and trade in farm tractors can now be rounded out with some indication of the extent to which sales are concentrated in the hands of a small number of firms in the different major markets. In Britain, two firms, Ford and Massey-Ferguson, are reported to sell more than 70 per cent of all the tractors sold in that market. In Italy, Fiat is reported to dominate the market, selling about half of all the tractors bought by Italian farmers. Most other European markets are much less concentrated than this, although Volvo has a dominant position in Sweden and Renault an important position in France. In West Germany, three firms, Deutz, International Harvester, and Fendt, supply about 45 per cent of all the tractors sold, and three other firms, Massey-Ferguson, Eicher, and Deere-Lanz, supply an additional 20 per cent. Nine firms, including five domestic producers, supply about 81 per cent of the market.

In Canada, in 1967, the four largest firms supplied about 68 per cent of all the tractors sold (by value), and the eight largest firms some 94 per cent. In some individual provinces, the sales concentration is higher than this. In Saskatchewan, for example, the four largest firms supplied 77 per cent of the market, and the eight

TABLE 2.6—SALES CONCENTRATION RATIOS FOR WHEELED TRACTORS,  
ALL CANADA, BY SIZE CLASS, 1967

	<u>Four Largest Firms</u>	<u>Eight Largest Firms</u>
	(Percentage of total unit sales)	
Under 40 HP	86.7 Deere, Ford IHCC, M-F	100.1 A-C, Case D. Brown, White
40 to 59 HP	58.6 D. Brown, Deere Ford, M-F	85.9 A-C, Case, IHCC White
60 to 69 HP	62.1 Case, Deere IHCC, M-F	94.9 C.C.I.L., D. Brown Nuffield (BMC), White
70 to 99 HP	84.4 Case, Deere IHCC, White	100.0 A-C, M-F, Ford
100 HP and over	81.8 Deere, IHCC Versatile, White	100.0 A-C, Case M-F

Note: White includes all tractors sold by Cockshutt and Minneapolis-Moline (subsidiaries of White Motor Company) and Oliver tractors sold by Coopérative Fédérée de Québec.

Source: Individual company reports and DBS Merchandising and Services Division, *Farm Implement and Equipment Sales, 1967* (Ottawa: Queen's Printer, 1969).



largest 98 per cent. Concentration ratios also vary for different sizes of tractor. As Table 2.6 shows, concentration is highest at both ends of the range, for the under 40 HP tractors and for the over 70 HP tractors. It is lowest in the 40 to 59 HP category. The names of the four largest firms and the fifth to eighth largest firms are given in Table 2.6 in alphabetical order.

In the United States, in 1963, the four largest firms accounted for 72 per cent of total shipments of wheeled tractors, and the eight largest firms for 95 per cent. This suggests a slightly more concentrated market than exists in Canada. Direct comparison is not possible since the U.S. data include export as well as domestic shipments. The names of the companies in the U.S. data are not available.

Less complete information is available on production and trade in combines. Pull-type combines began to come into use early in this century, and by 1930 there were 70,000 in use on North American farms. By 1940 this had increased to 210,000, all but about 20,000 of which were in the United States. In the mid-thirties Massey-Harris began development work on a self-propelled combine and, in the latter stages of the war, had on the market the model that formed the basis of the Harvest Brigade of combines that was used for custom combining over a vast area of the American West. In the early post-war years, as a result of this head start, Massey-Harris at one time provided more than half of all the self-propelled combines sold in North America. Its total North American production of both pull-type and self-propelled combines reached a peak of almost 30,000 in 1951. As other firms introduced and improved their own self-propelled models, Massey gradually lost this dominant position.

In Western Europe a number of native firms developed important positions in the combine field. A small family firm in West Germany, the Claas company, produces 18,000 to 20,000 a year, and has become the leading seller in Western Europe. Its combines are also exported to North America where they are sold by C.C.I.L. in Western Canada and by Ford in the United States and, since 1968, in Eastern Canada. Another leading German farm machinery company, Fahr, now amalgamated with the tractor producing Deutz company as Deutz-Fahr, is reported to be the third largest German producer of combines, second place being occupied by Massey-Ferguson with a production of 5,600 in 1966.

In Belgium another small family firm, Clayson, established an important market position for its combine in Western Europe during the post-war period. In the early sixties it was taken over by the New Holland Division of the Sperry Rand Corporation and its combine is now marketed in North America under the New Holland brand name. Its production is estimated to be around 10,000 a year.

In Sweden the leading combine manufacturer is Bolinder-Munktell. It produces the Volvo combine which is sold in substantial volume in Europe and the Middle East. A Volvo combine is also manufactured under a licensing arrangement in Britain. There are also smaller domestic firms in France (Braud), in Italy, and in Britain.

The other major combine manufacturer in Western Europe is Massey-Ferguson. In its three plants in Scotland, France, and Germany, it produces around 10,000 combines a year. Deere also produces an estimated 1,500 combines in its plant in Zweibrücken in West Germany, and now exports a few of these to North America.

TABLE 2.7—WORLD PRODUCTION OF COMBINES IN 1965, ACTUAL AND ESTIMATED  
(Except U.S.S.R., China, and East European Countries)

(Thousands of units)  
*Figures in italics are estimates*

Company Ranking <sup>1</sup> According to Market Share	World	U.S.A.	Federal Republic of Germany	Canada	Belgium	Britain	Sweden	France	Denmark	Japan	Australia	Italy	Austria	Other
Claas	22.0		22.0											
Massey-Ferguson <sup>2</sup>	21.4		5.4	9.6		3.7		1.1			1.6			
Deere	15.0	13.5	1.5											
International Harvester	11.0	9.5		0.5	9.0			0.5			0.5			
Clayson	10.0	1.0												
Allis-Chalmers	9.0	8.5				0.5								
Bolinder-Munktell	4.9						4.9							
Case	4.8	4.8												
Braud	3.3							3.3						
Cockshutt <sup>3</sup>	4.0			4.0										
Versatile	0.5			0.5										
Other	17.2	1.1	2.5			1.0	0.3		4.8	3.4	0.5	1.6	1.0	1.0
		38.4 <sup>4</sup>	31.4 <sup>5</sup>	14.6 <sup>6</sup>	9.0	5.2 <sup>7</sup>	5.2 <sup>8</sup>	4.9 <sup>9</sup>	4.8 <sup>10</sup>	3.4 <sup>11</sup>	2.6	1.6 <sup>12</sup>	1.0 <sup>13</sup>	1.0 <sup>14</sup>
World Total	123.1													

<sup>1</sup> The ranking for the first nine companies was taken from the book by E.P. Neufeld, *A Global Corporation* (University of Toronto Press, 1969), p. 14.

<sup>2</sup> The total Massey-Ferguson production and breakdown by country was taken from Neufeld's book. *Ibid.*, p. 286.

<sup>3</sup> The production figure is based on the testimony given by J. MacDonald, Vice-President, Marketing, Cockshutt Farm Equipment of Canada Ltd., *Hearings, Royal Commission on Farm Machinery*, XXVIII, (1967), p. 2839.

<sup>4</sup> U.S. Department of Commerce, Bureau of the Census, *Current Industrial Reports Series Ma-35A(66)-6, Farm Machines and Equipment 1966 and 1965* (Washington D.C., 1968).

TABLE 2.7 (Concluded)

<sup>5</sup> While data from Office Statistique des Communautés-Européennes (O.S.C.E.), *Statistiques Industrielles 1968*, p. 87, show total German production for 1963 as 21,300 and for 1967 as 19,500 (data for 1964, 1965, 1966 not given), a much higher total for 1965 must be accepted if the Neufeld ranking is used. German production was constructed as follows:

Claas (higher than known Massey-Ferguson world total)	22,000
Massey-Ferguson (production known from Neufeld, <i>loc. cit.</i> )	5,400
Deere (low production)	1,500
Others (such as Fahr, Bautz, Koedel and Boehm, etc.)	2,500
Total	31,400

<sup>6</sup> DBS Merchandising and Services Division, *Farm Implement and Equipment Sales* (Ottawa: Queen's Printer, 1967).

<sup>7</sup> Central Statistical Office, *Annual Abstract of Statistics 1968*, No. 105 (London: Her Majesty's Stationery Office, 1968), Table 197, p. 173.

<sup>8</sup> The data were received in a telegram from the Canadian Embassy, Commercial Division, Stockholm, Sweden, Dated June 26, 1969.

<sup>9</sup> O.S.C.E., *loc. cit.*, 1965 figure. The production of combines from Institut National de la Statistique et des Etudes Économiques, *Annuaire Statistique de la France 1967*, Chapitre 20B, Tableau II, p. 351, for 1965 is given as 17,925 tons which gives an average combine weight of 8,000 pounds.

<sup>10</sup> This figure was received in a telephone conversation with the Danish Embassy in Ottawa.

<sup>11</sup> The estimate was calculated from the figure of \$8.1 million in 1965 and the estimated average price of a combine. Organization for Economic Co-operation and Development (O.E.C.D.), *The Engineering Industries in North America, Europe, Japan*, Delivery Statistics for Selected Engineering Products (Paris, 1967), Table IV. 4.

<sup>12</sup> O.S.C.E., *loc. cit.*, 1965 figure.

<sup>13</sup> The estimate was calculated from the figure of \$2.4 million in 1965 and the estimated average price of a combine, O.E.C.D., *loc. cit.*

<sup>14</sup> This is the estimated figure allowed for other countries such as Norway, Finland, etc.

Although there is a substantial trade in combines among the different countries of Western Europe and a significant export from Europe to Africa, the Middle East, Australia, and South Africa, trade between Europe and North America is still relatively small. In 1967, for example, Canada exported 11,629 combines, of which all but 504 went to the United States. Similarly, Canada imported 5,365 combines in 1967, of which 318 came from West Germany, one from Sweden and the rest from the United States. In 1966 the United States exported \$138 million worth of harvesting machinery and imported \$114 million worth. Of these exports, \$95 million went to Canada, \$13 million to Latin American countries, \$10 million to the Common Market and \$5 million to the EFTA group of countries. On the import side, \$107 million or 94 per cent of the total came from Canada, \$5 million from the Common Market countries and \$1 million from the EFTA group.

An estimate of world combine production by country and company is given in Table 2.7.

According to these estimates, there were about 125,000 combines produced outside the Communist countries in 1965. Of this total, some 38,000 were produced in the United States, 31,000 in West Germany, 15,000 in Canada, 9,000 in Belgium, and 5,000 in Sweden. The leading producers on a worldwide basis were Claas with 22,000 and Massey-Ferguson with 21,000, followed in order of size by Deere, International Harvester, Clayson (New Holland), Allis-Chalmers, Volvo (Bolinder-Munktell), and Case.

In Canada nine different companies now offer combines to Canadian farmers, although one of these brands, the Versatile, is sold only in Western Canada. Of these nine different brands, three are manufactured in Canada, namely the combines sold by Versatile, Cockshutt, and Massey-Ferguson. In addition, International Harvester manufactures a small model in Hamilton which is sold in Eastern Canada. Four others are manufactured mainly in the United States. These are the combines sold by Deere, International Harvester, Case, and Allis-Chalmers. In 1968 Deere also imported some combines from its plant in West Germany for sale in Canada. The Claas combine is manufactured entirely in West Germany, and the New Holland or Clayson combine is basically produced in Belgium, but combines for the North American market are finished in the United States with U.S. hydraulic components and tires.

In 1967 the four leading sellers (Deere, International Harvester and Massey-Ferguson, and the White Motor Company subsidiaries, Cockshutt and Minneapolis-Moline) provided about 69 per cent of the self-propelled combines sold in Canada. No exactly equivalent data are available for the United States. However, in 1963, the four largest firms produced about 69 per cent of all the harvesting machinery manufactured in the United States.

Finally, it may be noted that while Canada ranks third in the world as a producer of combines, her production of wheeled tractors is confined to the small number of large four-wheel-drive tractors produced by Versatile in Winnipeg.



## Chapter 3

### THE STRUCTURE OF PRICES

In comparing prices of farm machinery in Canada and other countries, it is important to understand the price structure of the industry. Valid comparisons can be made only if the prices being considered are at the same transaction level, such as the levels between dealer and farmer, between the wholesale branch of the farm machinery company or an independent wholesaler and the dealer, and between the manufacturer and the wholesaler.

On its way to the farmer, farm machinery may pass through three transaction levels, each of which has a price associated with it. There is the price actually paid by the farmer or the *realized price*. The dealer in turn pays the wholesale branch of the manufacturer or the independent wholesaler for the machine. This is usually called the *dealer price* or the *net wholesale price*. The wholesaler or wholesale branch in turn pays the manufacturer a price that is often called the *factory price*. Where the machine is being shipped from the factory to the wholesale branch of the same company, this may simply be an arbitrary *transfer price*. In addition, there is the *suggested retail price*, the price that appears in the price list issued by the company, and the one that is normally the starting point for bargaining between the farmer and dealer.

It should be noticed that the suggested retail price does not include the cost of shipping the machine from the factory to the dealer. Thus the initial price quoted to the farmer will usually be the suggested retail price plus freight. For machines originating in North America, the farmer usually pays the freight from the factory to the dealer. When the tractor or other farm machine is imported from Europe, the farmer normally pays the freight from the port of entry to the dealer.

TABLE 3.1—PRICE LEVELS IN THE FARM MACHINERY INDUSTRY  
IN NORTH AMERICA

	Percentage of Suggested Retail Price
Suggested retail price (SRP)	100
Price paid by farmer, after discount from SRP where no trade-in involved, or after over-allowance on trade-in (84-86 per cent of SRP)	85
Net wholesale price (NWP) or net selling price to dealer (including volume discounts)	73
Typical "transfer price" between manufacturing and selling divisions of same company	61
Typical North American manufacturing cost level (51-57 per cent of SPR) <sup>1</sup>	54

<sup>1</sup> Based on 11-year average of two major farm machinery manufacturers: Deere and Company (51 %) and J.I. Case Company (57 %).

Source: See Appendix A.

Often this is from Montreal or, in some instances in Western Canada, from the Lakehead. Each of these price levels will be discussed in turn. For North America, Table 3.1 relates each of the price levels to the suggested retail price.

### Dealer to Farmer Level

In North America, and to some degree in other countries, the farmer buying a new machine will offer a used machine as a trade-in. Thus the price the farmer actually pays for his machine will depend on the amount he is offered in trade for his old machine. If, as normally happens, the allowance made for the old machine exceeds its market value, the effective price paid by the farmer will be below the suggested retail price. While no accurate data are available on the effective prices paid by farmers, and they undoubtedly vary from farmer to farmer and from dealer to dealer, an approximate measure of the extent to which realized prices depart from suggested list prices can be obtained from surveys of dealer operating costs and profits. These surveys suggest that Canadian farmers currently pay for new machines a price equal to about 84 per cent of the "list price" or the suggested retail price that appears in the company price lists. Details on how this amount is arrived at are contained in Appendix A.

As Table 3.2 shows, the margins earned by farm machinery dealers in North America have been fairly stable in recent years. The gross margin earned on sales of new and used equipment by the dealers reporting to the survey noted on this table has varied over the range of 8.2 to 9.5 per cent since 1962. Although these results are dominated by dealers operating in the United States, the survey includes about 46 dealers from Saskatchewan. Data for Canada, described in Appendix A, indicate that the margins earned by Canadian dealers are just slightly lower than those earned in the United States. Data on dealer margins can only measure the average

TABLE 3.2—FARM IMPLEMENT DEALER MARGINS (EXCLUDING VOLUME DISCOUNT), UNITED STATES AND SASKATCHEWAN,<sup>1</sup> 1961 TO 1967

PROFIT/(LOSS)						
	Dealer Margin — Percentage of New and Used Equipment Sales			Margin on New Equipment	Margin (loss) on Used Equipment	Combined Dollar Margin on New and Used Equipment as Percentage of New Equipment Sales Only
	Average Dealer	Low-Profit Dealers <sup>2</sup>	High-Profit Dealers <sup>2</sup>			
1961	10.2	8.6	12.4	15.4	(5.1)	13.6
1962	9.3	7.4	12.6	14.2	(5.5)	12.3
1963	9.5	8.7	11.7	13.9	(4.5)	12.5
1964	8.9	6.2	12.2	13.2	(4.1)	11.8
1965	8.2	5.5	11.8	11.8	(3.4)	10.8
1966	8.6	6.8	12.1	11.7	(1.8)	11.2
1967	8.4	6.0	11.1	11.1	(1.1)	10.8

<sup>1</sup>Cost of Doing Business Study, approximately 1,600 dealers, of whom about 46 were from Saskatchewan (1966).

<sup>2</sup>Low-profit dealers are the poorest one-fourth of all dealers reporting as measured by the percentage of net profit to sales; high-profit dealers are the best one-fourth using the same measure. Margins do not include the volume bonus received by dealers at the end of the year.

Source: National Farm and Power Equipment Dealer Association, *Cost of Doing Business Study* (St. Louis), Studies from 1961 through 1967.

extent to which the price paid by the farmer is below the suggested retail price. In fact, in individual transactions, the extent of this discount from list price may vary significantly. Some idea of the range involved is shown in Table 3.2 which gives the margins earned by "low-profit" and "high-profit" dealers. Similar differences undoubtedly apply to different types and makes of machinery. Some companies offer their dealers larger discounts than others, and more bargaining between farmer and dealer takes place on a tractor or a combine than on a cultivator.

While only limited information is available as to the extent to which farmers receive effective discounts from list prices in other countries, a similar Cost of Doing Business Study<sup>1</sup> of dealer margins in Britain, made available to the Commission, indicates that farmers in that country pay on the average about 93 per cent of suggested retail prices.

### **Wholesaler to Dealer Level**

This is the price paid by the dealer for a machine which will be sold later to the farmer. Initially, the invoice price to the dealer is arrived at by subtracting a trade discount from the suggested retail price of the machine. For the major companies, the trade discount in Canada currently averages 23 per cent. At the end of the year, the dealer will usually be given a volume bonus based on his total sales for the year. Although the volume bonus increases with total sales up to a certain limit, all but the smallest dealers normally qualify for the full volume bonus. For most companies this averages about 4 per cent of the suggested retail price. Thus, in recent years, the dealer discount in Canada for most full-line firms has been 27 per cent of list price. The average net selling price to the Canadian dealer is therefore 73 per cent of the list price.

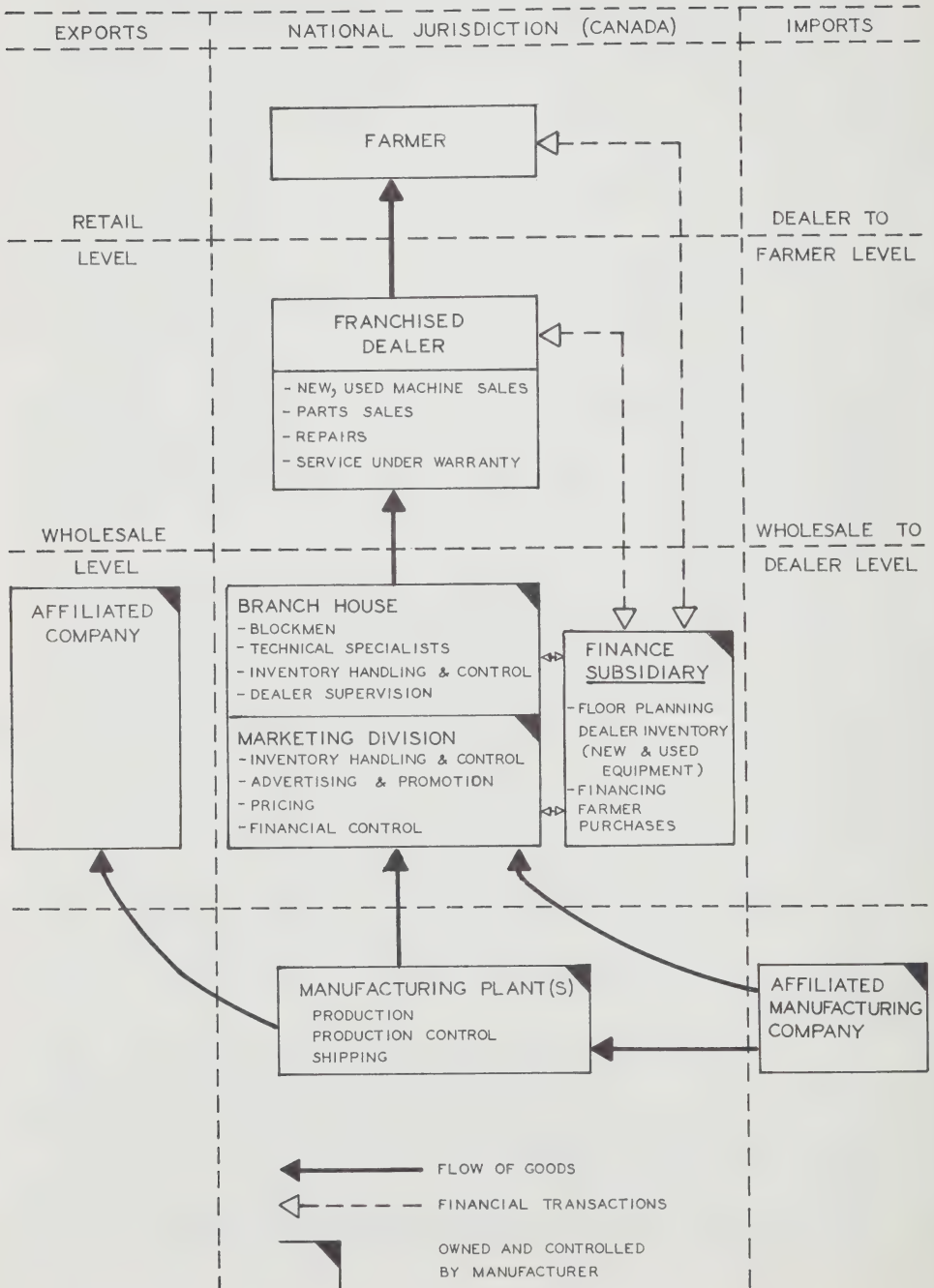
This apparently simple relationship is complicated by the different ways farm machinery companies establish suggested retail prices in Canadian dollars. Four companies manufacturing in Canada, Deere, Cockshutt, International Harvester and Massey-Ferguson, publish Canadian price lists. Other companies, such as J.I. Case and Allis-Chalmers, use an identical price list expressed in U.S. dollars for both Canada and the United States. Using this U.S. price list, the Canadian dealer arrives at a Canadian list price by applying an exchange adjustment factor. This latter factor, currently a surcharge of from 5 to 6 per cent, is applied to the list price only, after deduction of the dealer's 23 per cent discount. Thus the Canadian list price is made up of the net price to the dealer (excluding volume and other bonuses), plus an exchange factor, plus the original 23 per cent discount. Application of 5 or 6 per cent to the dealer price is roughly equivalent to applying the full exchange rate to the net price charged to the wholesale branch house. Since the exchange rate is not applied to the wholesale and dealer margins, the resulting suggested retail price is below the U.S. list price converted to Canadian dollars at the official exchange rate. Correspondingly, the margin available to the dealer and branch house is slightly smaller in Canada.

Two companies, Deere and Cockshutt, publish Canadian price lists in Canadian dollars. The lists of International Harvester and Massey-Ferguson require an exchange conversion for certain products. These are generally imported items, but some imported items are not subject to exchange conversion. A factor of 5 or 6 per cent applies to the wholesale price only.

---

<sup>1</sup> Agricultural Machinery and Tractor Dealers' Association Limited, *National Survey of Trading Costs, Margins and Profits in the Retail Agricultural Machinery Trade* (Rickmansworth, England, 1966).

FIGURE 3-1  
DISTRIBUTION SYSTEM FOR MAJOR FARM MACHINES  
IN NORTH AMERICA





When the suggested retail prices of tractors and combines for each of these major companies in Canada and the United States are compared by converting the U.S. list price to Canadian dollars at the official exchange rate, the results are as follows. Deere's prices in Canada and the United States are pretty well identical. For Massey-Ferguson, the Canadian price, with a few exceptions, is below the U.S. price. Suggested retail prices for the other four long-line companies are also lower in Canada than in the United States.

For the full-line companies, relationships between wholesaler and dealer are complicated by the fact that not only do these companies maintain their own wholesale branch houses, but they also finance both new and used machines in the hands of the dealer, and many of them finance sales to the farmer as well. Machines in the hands of the dealer are financed under a "floor plan" arrangement, which is interest-free to the dealer for at least one selling season or until the machine is sold. The financing of both the dealer and the farmer may be arranged either through a finance subsidiary or through the parent company. A broad indication of the pattern taken by these relationships is given in Figure 3.1

### Manufacturer to Wholesaler Level

Since, for all the major companies, the price charged by the manufacturer to the wholesaler is a transfer price, showing the price at which the tractor or combine is transferred from one division of the company to another, little attention is paid to this level of pricing in the present study. However, where the manufacturer is in one country and the wholesale branch in another, the transfer price will affect the division of profits between the two countries. Chapter 6 gives some analysis of the different profit levels that arise when identical machines are sold at varying prices in different countries.

### The Structure of Prices in Different Countries

Taking the suggested retail price in each instance as 100, Table 3.3 provides a measure of the extent to which the price to the farmer and the wholesale price diverge from this level in nine different countries. Data on prices to the farmer are available for three countries only — Canada, the United States, and Britain — and even here are fairly approximate. The estimates of wholesale prices or net price to the dealer are based on a variety of sources, described in Appendix A.

TABLE 3.3—FARM MACHINERY PRICES AT DIFFERENT TRANSACTION LEVELS, SELECTED COUNTRIES, 1966-67

	Suggested Retail Price	Farmer's Purchase Price	Dealer or Whole- sale Price
Canada	100	84	73
United States	100	86	73
Britain	100	93	82
France	100		84
Italy	100		79
West Germany	100		65
Sweden	100		76
Australia	100		81
South Africa	100		81

Source: See Appendix A.

As these data show, the discount structure varies widely in the different countries. In Britain, for example, the discount to the dealer is much smaller than in North America, and the dealer sells at closer to the suggested retail price. For this reason, a comparison of suggested retail prices substantially overstates the amount actually paid by farmers in Canada and the United States, compared with farmers in Britain. Smaller discounts than in North America are also evident in France, Italy, Australia, and South Africa. The discount in Sweden is larger and begins to approach that in Canada. Much the largest discount of any country is that offered in West Germany in 1966, although this has now been reduced by some companies. With the exception of West Germany, the purchase price to the Canadian farmer appears to be lower in relation to the suggested retail price than in other countries.

Although the discount structure is similar in Canada and the United States, there is some evidence that the net price to the farmer is slightly lower in relation to the suggested retail price in Canada. Thus, in Table 3.3, the farmer price is shown as 84 per cent of the list price in Canada and 86 per cent in the United States. In addition, the way in which the exchange rate is handled affects the level of discount allowed, to some small extent. In all countries, the discounts offered by smaller firms sometimes differ from those offered by the major firms. Only the latter are covered by the data presented here.

## Chapter 4

### INTERNATIONAL PRICE COMPARISONS: TRACTORS AND COMBINES

Much of the data collected by the Commission on tractor and combine prices in different countries relates to the 1966 or 1967 selling season. Since that time, sterling has been devalued and some of the price relationships between different countries have changed. However, because the preparation of price comparisons for identical machines in different countries is so time-consuming, it was not possible to bring all these comparisons up to date. They represent the price differences that existed at that point of time. To take account of the effects of devaluation, a more limited comparison was undertaken showing the prices of tractors during the 1968 selling season in Canada and Britain.

Before examining the current picture, it is worth noting that the removal of the Canadian tariff on farm machinery in 1944 has largely eliminated the price differences that formerly existed between Canada and the United States. In the 1930's when the Canadian tariff on imports of farm machinery (except tractors valued at less than \$1,400, which were free of duty) was 25 per cent, prices of farm machines were often significantly higher in Canada than they were in the United States. Some information on these differences was presented to the Special Committee of the House of Commons on Farm Implement Prices<sup>1</sup> in the late thirties, and these data have been summarized in Table 4.1.

TABLE 4.1—PRICES OF FARM MACHINERY IN CANADA AS PERCENTAGE  
OF U.S. PRICES, 1935-36, BY TYPE OF MACHINE

	Tariff Rate	Canadian Price		U.S. Price
		(Average)	(Range)	
Tractors	Free & 25%	103	100-107	100
Harvesting machinery	25%	120	112-143	100
Haying machinery	25%	116	104-122	100
Tillage machinery	25%	103	95-129	100

Source: These figures were arrived at from analysis by the Commission staff of prices quoted in Canada, House of Commons, Special Committee on Farm Implement Prices, *Minutes of Proceedings and Evidence and Report*, Nos. 1-20, Sess. 1937.

In 1935-36 tractor prices averaged 3 per cent higher in Canada, harvesting machinery 20 per cent higher, haying machinery 16 per cent higher, and tillage machinery 3 per cent higher. Price differences of about this magnitude appear to have prevailed throughout the thirties. However, the differences were appreciably smaller than this before tariffs were increased in 1930.

While free trade has eliminated the price differences that formerly existed between Canada and the United States, substantial differences still exist between Canada and Western Europe, as the data presented in this chapter will make abundantly clear. These differences exist despite the complete absence of tariffs on tractors or other machinery imported from Western Europe. Their existence

<sup>1</sup> Canada, House of Commons, Special Committee on Farm Implement Prices, *Minutes of Proceedings and Evidence and Report* Nos. 1-20, Sess. 1937.

suggests that other barriers have taken the place of tariff duties. But more on this later.

The differences in prices charged for essentially identical tractors in nine different countries – Canada, the United States, Britain, France, Italy, West Germany, Sweden, Australia, and South Africa – are summarized in Tables 4.2 to 4.6, which show the price differences that existed during the 1966 or 1967 selling season. Further details on prices for individual tractors in these different countries are presented in Appendix B. All price comparisons are for tractors with virtually identical specifications. Price comparisons are made for major horsepower groups, and are summarized separately for firms whose international headquarters are in North America and for those whose head offices are in Europe.

These comparisons show that for all sizes of tractors up to 75 HP, suggested retail prices are very much lower in Britain than in Canada (by 26 to 45 per cent), and are substantially lower in Italy and South Africa (by 10 to 21 per cent). (See Tables 4.2 and 4.5.) In Australia and Sweden list prices on this size range of tractors are moderately lower (by 6 to 11 per cent) than in Canada. Only in West Germany, France, and the United States are list prices generally higher than in Canada. Although there are variations in the amount of these differences, this pattern holds for both the North American and the European firms. In terms of absolute amounts, these differences (shown in detail in Appendix B, Table B.1) range as high as \$3,031, the amount by which the Canadian list price of one 60 to 75 HP tractor (\$6,716) exceeds the list price of the identical tractor in Britain (\$3,685).

In contrast, suggested list prices for the larger tractors, 75 HP and up, are often higher in Europe than they are in North America. This is uniformly true of the tractors sold by North American based firms. The larger horsepower tractors of these firms are manufactured in the United States and exported to Europe, and carry suggested list prices anywhere from 11 to 40 per cent above the Canadian list prices for equivalent tractors. However, this is not true of the two European tractors in the over 75 HP class. The Volvo 800 lists from 13 to 17 per cent lower in Britain, Sweden, and South Africa than it does in Canada. Similarly, the Deutz D-9005 carries a suggested list price in West Germany and Sweden from 5 to 7 per cent below its Canadian list price.

Because of the extent to which discounts vary from country to country, suggested retail list prices may often not provide an accurate indication of either the amount paid for a tractor by the farmer or of the net return received from the dealer by the manufacturer. As pointed out earlier, the British farmer usually pays about 93 per cent of the list price, whereas in North America the farmer pays on the average something like 84 to 86 per cent of the list price. Dealer discounts also vary widely from country to country. It is useful, therefore, to consider also the price differences that exist at the dealer level. Tables 4.3 and 4.6 compare net wholesale prices for tractors in these same countries.

Even on a net wholesale price basis, Britain is still much the lowest-priced tractor country for all tractors of 75 HP and under. Net wholesale prices to the dealer for this size range of tractors are from 17 to 38 per cent lower than they are in Canada. In dollar amounts, this means that a manufacturer may receive from the dealer as much as \$1,881 more from a tractor sold in Canada than he receives for the identical tractor when sold to a farmer in Britain through a dealer there. The



TABLE 4.2—SUMMARY OF TRACTOR SUGGESTED RETAIL PRICES, PRICE DIFFERENCES AND PRICE RELATIVES, AVERAGES BY HORSEPOWER GROUP,<sup>3</sup> VARIOUS COUNTRIES, GENERALLY 1966 OR 1967 SELLING SEASON  
(Canadian dollars)

PTO Horsepower Group	Canada	United States	Britain	France <sup>2</sup>	Italy	Federal Republic of Germany	Sweden	Australia	South Africa
<u>North American Based Firms</u>									
<u>Suggested retail prices</u>									
Under 45	3,399	3,524	2,523	3,567	2,902	4,284	3,186	3,193	3,161
45 - 60	4,920	5,574 <sup>1</sup>	3,312	4,809	4,167	5,572	4,539	4,429	3,914
60 - 75	6,896	6,798	3,685 <sup>1</sup>		5,332 <sup>1</sup>	6,965 <sup>1</sup>	6,820		5,482 <sup>1</sup>
75 - 90	8,511	8,618	9,739 <sup>1</sup>					8,077	
90 - 100	8,683	8,710	9,778	11,404 <sup>1</sup>		9,909 <sup>1</sup>	10,214	9,709	8,160 <sup>1</sup>
Over 100 <sup>1</sup>	13,401	13,401	14,872	18,751		15,174	15,335		
<u>Price differences—higher/</u>									
<u>(lower) than Canada</u>									
Under 45		339	(884)	183	(506)	885	(213)	(214)	(357)
45 - 60		631 <sup>1</sup>	(1,608)	(111)	(753)	652	(381)	(555)	(1,070)
60 - 75		(98)	(3,031) <sup>1</sup>		(1,384) <sup>1</sup>	249 <sup>1</sup>	(76)		(1,414)
75 - 90		107	1,332					434	
90 - 100		27	941	2,457		1,706	1,757	866	(43)
Over 100 <sup>1</sup>		0	1,471	5,350		1,773	1,934		
<u>Price relatives of suggested retail</u>									
<u>prices — Canada = 100</u>									
Under 45	100.0	110.6	74.1	105.4	85.2	126.0	93.7	93.7	89.9
45 - 60	100.0	112.8 <sup>1</sup>	67.3	97.7	84.7	113.3	92.3	88.9	78.5
60 - 75	100.0	98.6	54.9 <sup>1</sup>		79.4 <sup>1</sup>	103.7 <sup>1</sup>	98.9		79.5
75 - 90	100.0	101.3	115.8 <sup>1</sup>					94.9	
90 - 100	100.0	100.3	110.6	127.4 <sup>1</sup>		120.8 <sup>1</sup>	120.8	109.8	99.5 <sup>1</sup>
Over 100 <sup>1</sup>	100.0	100.0	111.0	139.9		113.2	114.4		

TABLE 4.2 (Concluded)

PTO Horsepower Group	United States		European Based Firms		Federal Republic of Germany		South Africa	
	Canada	United States	Britain	France <sup>2</sup>	Italy	Sweden	Australia	
<u>Suggested retail prices</u>								
Under 45	3,708	3,467 <sup>1</sup>	2,564	4,098	3,223	3,742	3,228	3,269
45 - 60	5,355		2,955	5,021	3,734	4,776	4,112	4,228
60 - 75				5,394 <sup>1</sup>	4,165 <sup>1</sup>			
75 - 90	9,302		7,767 <sup>1</sup>	10,665 <sup>1</sup>		8,553 <sup>1</sup>		7,998
<u>Price differences—higher/(lower) than Canada</u>								
Under 45		119 <sup>1</sup>	(1,011)	511	(295)	(315)	(290)	(249)
45 - 60			(1,463)	649	(462)	128	(187)	(698)
60 - 75								
75 - 90			(1,629) <sup>1</sup>	1,269 <sup>1</sup>		(821)		(1,398)
<u>Price relatives of suggested retail prices—Canada = 100</u>								
Under 45	100.0	103.6 <sup>1</sup>	71.7	114.6	91.6	119.2	91.8	92.9
45 - 60	100.0		66.9	114.7	89.6	99.7	102.9	84.2
60 - 75								
75 - 90	100.0		82.7 <sup>1</sup>	113.7 <sup>1</sup>		92.9 <sup>1</sup>	91.2	85.1

<sup>1</sup> One tractor only.<sup>2</sup> SRP as stated includes tax on value added (TVA) amounting to 12 per cent of list price plus TVA.<sup>3</sup> Average differences (higher/(lower) than Canada) and price relatives were calculated using only averages of prices for which there were comparable tractors sold in both Canada and the respective foreign country. Average suggested retail prices, on the other hand, were calculated based on all tractors sold in each country.

Source: Tables B.3 and B.4.



TABLE 4.3 (Concluded)

PTO Horsepower Group		Canada	United States	Britain	France	Italy	Federal Republic of Germany	Sweden	Australia	South Africa
Net wholesale prices				European Based Firms						
Under 45		2,707	2,531 <sup>1</sup>	2,102	2,745	2,546	2,913	2,843	2,614	2,648
45-60		3,909		2,424	3,364	2,950	3,558	3,629	3,331	3,424
60-75					3,614 <sup>1</sup>	3,290 <sup>1</sup>				
75-90		6,790		6,369 <sup>1</sup>	7,146 <sup>1</sup>		5,559 <sup>1</sup>	6,446		6,478 <sup>1</sup>
Price differences — higher/(lower) than Canada										
Under 45			87 <sup>1</sup>	(508)	132	(23)	169	(118)	45	79
45-60				(801)	170	(99)	(438)	230	202	(212)
60-75							(1,162) <sup>1</sup>	(344)		(381) <sup>1</sup>
75-90				(490) <sup>1</sup>	287 <sup>1</sup>					
Price relatives of net wholesale prices — Canada = 100										
Under 45		100.0	103.6 <sup>1</sup>	80.5	105.2	99.1	106.2	96.0	101.8	103.1
45-60		100.0		75.2	105.3	96.9	88.8	107.1	106.3	93.4
60-75										
75-90		100.0		92.9 <sup>1</sup>	104.2 <sup>1</sup>		82.7 <sup>1</sup>	95.0		94.4 <sup>1</sup>

<sup>1</sup> One tractor only.

<sup>2</sup> Average differences (higher/(lower) than Canada) and price relatives were calculated using only averages of prices for which there were comparable tractors sold in both Canada and the respective foreign country. Average net wholesale prices, on the other hand, were calculated based on all tractors sold in each country.

Source: Tables B.5 and B.6.



TABLE 4.4—PRICE DIFFERENCES BETWEEN CANADA AND OTHER COUNTRIES FOR MEDIUM-SIZED AND LARGE-SIZED TRACTORS,  
1967 SELLING SEASON  
(Canadian dollars)

Maximum PTO HP at Rated En- gine r.p.m.	Canada	United States	Massey-Ferguson 165 Standard Clearance 6-Speed Tractor						
			Britain	France	Italy	Federal Republic of Germany	Sweden	Australia	South Africa
52	4,943	1	3,137 (1,806) 63.5	5,024 81 101.6	4,268 (675) 86.3	5,829 886 117.9	4,563 (380) 92.3	4,150 (793) 84.0	3,917 (1,026) 79.2
Suggested retail price Higher/(lower) than Canada Price relative									
Net wholesale price Higher/(lower) than Canada Price relative									

<sup>1</sup> The price relative of 112.8 between United States and Canada is not representative of the overall price differences between the United States and Canada and has therefore been omitted from this table.

Source: Tables B.3 and B.5.

TABLE 4.5—SUGGESTED RETAIL PRICE DIFFERENCES BETWEEN CANADA AND OTHER COUNTRIES BY PTO HORSEPOWER GROUP,  
AVERAGE PERCENTAGE ABOVE/(OR BELOW) CANADA, GENERALLY 1966 OR 1967 SELLING SEASON

PTO Horsepower Group	United States	Britain	France	Italy	Federal Republic of Germany	Sweden	Australia	South Africa
			North American Based Firms					
Under 45	11	(26)	5	(15)	26	(6)	(6)	(10)
45 - 60	13 <sup>1</sup>	(33)	(2)	(15)	13	(8)	(11)	(21)
60 - 75	(1)	(45) <sup>1</sup>		(21) <sup>1</sup>	4 <sup>1</sup>	(1)		(20)
75 - 90	1	16 <sup>1</sup>					(5)	
90 - 100	0.3	11	27 <sup>1</sup>		21 <sup>1</sup>	21	10	(0.5) <sup>1</sup>
Over 100	0	11 <sup>1</sup>	40 <sup>1</sup>		13 <sup>1</sup>	14 <sup>1</sup>		
			European Based Firms					
Under 45	4 <sup>1</sup>	(28)	15	(8)	19	(8)	(8)	(7)
45 - 60		(33)	15	(10)	(0.3)	3	(4)	(16)
60 - 75		(17) <sup>1</sup>	14 <sup>1</sup>		(7) <sup>1</sup>	(9)		(15) <sup>1</sup>

<sup>1</sup> One tractor only.

Source: Calculated from Tables B.3 and B.4.

TABLE 4.6—NET WHOLESALE PRICE DIFFERENCES BETWEEN CANADA AND OTHER COUNTRIES BY PTO HORSEPOWER GROUP, AVERAGE PERCENTAGE ABOVE/(OR BELOW) CANADA, GENERALLY 1966 OR 1967 SELLING SEASON

PTO Horsepower Group	Number of Firms							
	United States	Britain	France	Italy	Federal Republic of Germany	Sweden	Australia	South Africa
			North American Based Firms					
Under 45	11	(17)	(3)	(8)	12	(2)	4	(0.3)
45-60	13 <sup>1</sup>	(24)	(10)	(8)	1	(4)	(1)	(13)
60-75	(1)	(38) <sup>1</sup>		(14) <sup>1</sup>	(8) <sup>1</sup>	3		(12)
75-90	1	30 <sup>1</sup>					5	
90-100	0.3	24	17 <sup>1</sup>		8 <sup>1</sup>	26	22	10 <sup>1</sup>
Over 100	0	25 <sup>1</sup>	28 <sup>1</sup>		1 <sup>1</sup>	19 <sup>1</sup>		
			European Based Firms					
Under 45	4	(19)	5	(1)	.6	(4)	2	3
45-60		(25)	5	(3)	(11)	7	6	(7)
60-75								
75-90		(7)	4		(17)	(5)		(6)

<sup>1</sup> One model only.

Source: Calculated from Tables B.5 and B.6.

average difference was \$418 on tractors of less than 45 HP, \$876 for tractors in the 45 to 60 HP size class, and \$1,881 on tractors of 60 to 75 HP (see Table 4.3).

On this price basis, Italy and South Africa also show price levels significantly below those in Canada for tractors in the under 75 HP size range. For the tractors of North American firms the difference below the Canadian price varies from 8 to 14 per cent for Italy, and from 3 to 13 per cent for South Africa. The difference is somewhat smaller for the European firms. For the remaining countries, net wholesale prices are not consistently higher or lower than those in Canada (see Table 4.6). For example, in West Germany the under 45 HP class of tractors is from 6 to 12 per cent higher than in Canada on a net wholesale price basis, whereas in the 45 to 60 HP group, prices are from 1 per cent higher to 11 per cent lower. Similarly, variations in the average price differences for the various size groups are found in France, Sweden, and Australia.

When comparisons are made for tractors in the over 75 HP group on a net wholesale price basis, it is found that prices are very significantly higher for countries outside North America in the case of the tractors sold by the major North American manufacturers. For Sweden, Australia, France, and Britain, net wholesale prices of these tractors average generally from 5 to 30 per cent higher than in North America. In absolute terms, the difference varies from \$300 to \$2,800. For three other countries, prices are significantly but less markedly higher. Thus, for South Africa, the difference is 10 per cent, and for West Germany, 1 to 8 per cent. In contrast, the only two tractors in the 75 and over HP class supplied by European manufacturers sell in most countries at from 5 to 17 per cent below their net wholesale price in Canada. All the net wholesale prices in the above comparisons are based on average discount ratios and may not precisely portray the discount allowed by individual manufacturers in each country. Nevertheless, the general price pattern seems clear.

To sum up these data, it can be concluded that in the size range of tractors where European tractor manufacturers are the dominant producers, namely, tractors in the size range of up to 75 HP, prices are generally lower in Western Europe than they are in Canada and the United States, and in some countries they are very much lower. Prices of these tractors both in terms of suggested retail prices and net wholesale prices to the dealer are especially low in Britain, but also to some degree in Italy and South Africa. On the other hand, for the larger tractors where the market is dominated by North American production, prices are significantly lower in Canada and the United States than they are in Western Europe or in Australia and South Africa. This is true both for suggested retail prices and for net wholesale or dealer prices.

A comparison of combine prices in Canada and in selected countries throughout the world shows results broadly similar to those for tractors. In particular, Britain and West Germany emerge from this comparison as the countries in which prices are the lowest. As Table 4.7 shows, list prices for substantially identical combines are 17 to 25 per cent lower in Britain than they are in Canada, and list prices in West Germany are from 15 to 19 per cent lower. When net wholesale prices are compared, it becomes clear that West Germany is the lowest-price country by a significant margin. Prices to the dealer in West Germany are from 24 to 28 per cent lower than they are in Canada. In Britain, dealer prices on combines are from 7 to 15 per cent below the equivalent Canadian price level.



TABLE 4.7—INTERNATIONAL COMPARISON OF COMBINE PRICES, SUGGESTED  
RETAIL PRICE (SRP) AND NET WHOLESALE PRICE (NWP), SELECTED COMPANIES AND COUNTRIES, 1966 OR 1967

Company	Canada	United States	Britain	France	Federal Republic of Germany	Italy	Sweden	Australia	South Africa
(Prices relative to Canada = 100)									
Claas									
SRP	100		83.2		81.1				
NWP	100		93.4		72.2				
Deere									
SRP	100	101.6	79.2	97.7	85.2				96.7
NWP	100	101.6	88.9	89.6	75.9				90.3
Massey-Ferguson									
SRP	100	104.8	75.2	99.5	83.6	96.4	95.4	117.5	115.5
NWP	100	104.8	84.5	91.3	74.4	104.3	99.4	130.4	128.2

Source: Tables B.7 and B.8. Data are averages of price relatives of models shown in these two tables.

For other countries the picture is somewhat varied, and less complete information is available. Prices appear to be from 2 to 5 per cent higher in the United States than in Canada on both a list price and wholesale price basis. In France, the net wholesale price is from 9 to 10 per cent below the Canadian level. In both Sweden and Italy prices of the one company for which data were available are within 1 to 4 per cent of Canadian levels on a net wholesale price basis. For Massey-Ferguson combines, prices in both South Africa and Australia are very significantly higher than in Canada, from 28 to 30 per cent on a net wholesale price basis. In contrast, Deere's combine prices in South Africa are about 10 per cent below the Canadian level at the dealer or wholesale level.

In absolute dollar amounts the price differences between Canada on the one hand and Britain and West Germany on the other are very substantial. If we average the differences in net wholesale prices over the various models of combines sold by each company, we obtain the following results:

	Price Difference – Amount Below Canadian Dealer Price	
	Britain	West Germany
Claas	\$ 548 on 4 models	\$1,794 on 4 models
Deere	\$ 966 on 3 models	\$1,942 on 4 models
Massey-Ferguson	\$1,226 on 3 models	\$1,945 on 2 models

As these data show, dealer prices in West Germany are in the general range of from \$1,800 to \$1,950 lower per combine than they are in Canada. In Britain, the differences range from \$550 to \$1,200.

When questioned about the difference in tractor prices during the public hearings of the Commission, representatives of the farm machinery companies advanced a number of reasons as to why prices in Canada were higher than they were in Britain and in a number of other countries. All companies emphasized the difference in discount structure, about 27 per cent in Canada compared with 18 per cent in Britain. As a representative of Cockshutt stated: "... the Italian list price that is published is not necessarily the price which the farmer there pays for it, and the same thing is true in Canada ... at least in our position we have to make comparisons on the basis of dealers' prices and not published list prices."<sup>2</sup> It was argued generally that because the Canadian farmer pays substantially less than the list price, whereas in England and in some other countries he pays closer to the full list price, a comparison of list prices seriously overstates the difference in the amount a farmer actually pays in the two countries.

Massey-Ferguson reported the difference in list price for its largest selling tractor on a world-wide basis, the MF 135, as \$1,010 in 1967, and said this price difference would break down as follows:<sup>3</sup>

Price or Cost Difference – Canada in Excess of Britain	
	(Canadian dollars)
Suggested retail price	1,010
Additional dealer margin	481
Net return from dealer	529

<sup>2</sup> The quotation was taken from the testimony given by Mr. J. Wormley, Vice-President, White Motor Corporation, *Hearings, Royal Commission on Farm Machinery*, Vol. XXVIII (1967), p. 2929.

<sup>3</sup> The cost difference analysis was based on the testimony given by Mr. P. Breyfogle, Comptroller, Massey-Ferguson Industries Inc., *ibid.*, Vol. XXXVII (1968), pp. 4175-9.

## Price or Cost Difference — Canada in Excess of Britain (Continued)

	(Canadian dollars)	
Floor plan and bad debt	200	
Ocean transportation	120 to 100	
Selling, distribution and promotion	64	
Warranty and obsolescence	29	
Company inventory	35	
Promotional and other discounts	14	462 to 442
All other, including profit		67 to 87

The list price in 1967 for the MF 135 was \$3,520 in Canada as compared with \$2,453 in Britain. (Company data used at the Commission's public hearings did not correspond exactly to data from company price lists in the Commission's possession.)

Ocean transportation is a clear, additional and unavoidable cost. Most of the other additional costs, amounting to from \$409 to \$429 on a tractor with a list price of around \$3,500, or about 12 per cent, are related to selling and distribution costs and practices in Canada and in North America generally. This whole question of distribution costs and practices will be examined in some detail in the Commission's Final Report. Meanwhile, it is worth noting that some additional cost would be expected in serving a widely dispersed market such as Canada's, compared with the compact British market. Canada contains about six times as much land under crop as Britain, and the crop land in Britain is largely contained within a 200-mile circle, whereas Canada's is spread in a narrow ribbon over some 5,000 miles. Further, the total number of tractors sold annually in the two countries (1961-67), 27,000 in Canada and 30,000 in Britain, is not too dissimilar.

A major addition to distribution costs in Canada arises out of the practice of "floor-planning" tractors and other machinery in the hands of the dealer, a practice whereby the manufacturer absorbs the carrying costs of inventory in the hands of the dealer until the machine is sold or for at least one selling season. Massey-Ferguson reported that, on the average, one of their tractors stays in the hands of a dealer for six months before it is sold.

Massey-Ferguson's estimate of the cost of the plan at \$200 on their MF 135 tractor includes the cost of the floor plan on trade-ins (as well as the new tractor), insurance on the floor plan, and the additional bad debt expense caused by the plan. It amounts to just under 6 per cent of suggested retail price. Because a tractor in Britain moves almost directly from the factory into the farmer's hands, this carrying cost is avoided. The length of the distribution channel also adds to company warehousing and inventory costs for tractors held in branch houses or central warehouses. In some respects, almost all of the additional costs reported by Massey-Ferguson relate to the more dispersed character of the Canadian market and the selling practices that have developed in that market. Apart from floor plan and ocean transportation costs, these additional costs amount to about 4 per cent of the 1967 Canadian list price.

It should be noted that the cost of the floor plan arrangement is not a net additional cost to the manufacturer and the farmer. Storing inventories with dealers allows the manufacturer to save factory or warehouse storage space. A further saving results from increased scheduling efficiencies in a highly seasonal market. As Massey-Ferguson noted in their submission:<sup>4</sup>

<sup>4</sup> Massey-Ferguson Industries Limited, *Brief to the Royal Commission on Farm Machinery* (1967), Vol. II, chap. x, p. 3.

The farmer's machinery purchases previously had tended in the main to conform to his seasonal receipt of income. This purchasing pattern caused congestion and inefficiencies in M-F's manufacturing and marketing departments. Therefore, a number of plans were designed to help level out the peaks and valleys of demand of manufacture and supply.

To the farmer there is the advantage that he can examine and try out a machine before purchase and obtain immediate delivery. However, it is not easy to quantify the importance of these considerations.

It should be noted that for two of their larger tractors the price difference existing during the 1966 selling season was much larger than for the MF 135 which was selected by the company for detailed discussion at the Commission hearings. This is shown by the following figures which give the difference existing at that time between Britain and Canada for the four smaller tractors sold by Massey-Ferguson.

	Price Difference — Canada in Excess of Britain	
	<u>Suggested Retail</u>	<u>Net Dealer</u>
	\$	\$
MF 130	772	377
MF 135	1,067	559
MF 165	1,806	1,036
MF 175	3,031	1,881

Source: Tables B.3 and B.5.

With variations, other companies advanced similar reasons for the price differences between Canada and Britain. Ford reported that on their Ford 5000 10-speed model, which in 1966 had a list price in Britain of \$3,620 compared with \$5,637 in Canada, and a net wholesale price of \$4,115 compared with \$2,968, ocean transportation would amount to \$141.50. With the addition to this of wharfage, custom brokerage, and insurance, the cost of bringing the tractor from England to Montreal was reported as \$171. Ford personnel reported that their floor-planning costs averaged about 7 per cent of Canadian list prices and the cost of inventory "in transit" added another 1.5 per cent to this. On this particular model this would amount to \$470.

The Ford representative laid particular stress on the additional cost involved in selling in Canada. He stated:<sup>5</sup>

... we have very much higher personnel costs in Canada. We have very much higher costs related to the extent of geography of our country and the fact that for a smaller volume than our U.K. operation is doing we have to maintain four offices and it is, I think, as recognized, a very expensive market to work because of the vast geography . . . . We have four regional offices and one head office organization. In total we have 5. . . . [In Britain] They have just one central office which covers the whole of the United Kingdom.

Other factors mentioned by one or more companies included the cost of issuing price lists and other material in two languages, the penalty freight cost

<sup>5</sup> The quotations were taken from the testimony given by Mr. R. Cudmore, General Manager, Ford Motor Company of Canada Limited, Tractor and Equipment Operations, *Hearings, Royal Commission on Farm Machinery*, Vol. XXXI (1967), pp. 3311-4.



involved in bringing tractors in through Atlantic ports in the winter months, and a suggestion that prices in Britain in recent years may have been held down by the cost-price freeze that is in effect. It was suggested, too, that the British farmer benefits from especially low prices for tractors because he lives in a country that has a major tractor manufacturing industry which exports about 80 per cent of its output. In addition, government incentives for the purchase of tractors keep new tractor sales at a high level in the British market, a factor that has favoured moderate pricing policies within the country.

Do the arguments advanced by these various farm machinery companies explain or justify the higher prices that currently exist in the Canadian market? In the Commission's view they do not. It is clear that prices on imported tractors, combines and other farm machines can be expected to be moderately higher in Canada than in Britain or other European sources, simply because of the costs of ocean transportation and the penalty associated with the dispersed character of the Canadian market. On the extent to which these additional costs are justified, the Commission at this point reserves judgement. In this Report our primary concern is whether the prices on tractors and combines to the Canadian subsidiaries of these international companies are at the same level as those charged to the equivalent selling organization in Britain or in other countries. Evidence in Chapter 6 demonstrates clearly that the prices to the Canadian organization are often higher than those charged in Britain and in some other countries. This means that the companies are pursuing a discriminatory pricing policy. The Canadian farmer is the one who suffers.

Since devaluation, the large differences between tractor prices in England and Canada for the 75 HP and under category have widened further. This is shown in detail in Tables 4.8, 4.9, and 4.10. The changes may be summarized as follows:

Tractor Price Differences – Britain Higher/(Lower) than Canada,  
1967 and 1968 Selling Seasons  
(Canadian dollars)

Size Class		1967	1968	Net Change
Under 45 HP	SRP	\$ (951)	\$(1,428)	\$(477)
	NWP	(465)	(837)	(372)
45 to 60 HP	SRP	\$(1,641)	\$(2,145)	\$(504)
	NWP	(908)	(1,307)	(399)
60 to 75 HP	SRP	\$(3,031)	\$(3,561)	\$(530)
	NWP	(1,881)	(2,287)	(406)

Tractor Price Relatives – British Price Relative to Canada as 100,  
1967 and 1968 Selling Seasons

Size Class		1967	1968	Net Change
Under 45 HP	SRP	73	62	11
	NWP	82	70	12
45 to 60 HP	SRP	67	58	9
	NWP	75	65	10
60 to 75 HP	SRP	55	49	6
	NWP	62	55	7

TABLE 4.8—COMPARATIVE TRACTOR PRICES—CANADA AND BRITAIN  
SUGGESTED RETAIL PRICE (SRP) AND NET WHOLESALE PRICE (NWP)<sup>3</sup> 1966 TO 1969 SELLING SEASONS  
(Canadian dollars)

	Pre-devaluation				Post-devaluation			
	1966		1967		1968		1969	
	Selling Season		Selling Season		Selling Season		Selling Season	
	Canada <sup>4</sup>	Britain	Canada	Britain	Canada	Britain	Canada	Britain
	Under 45 PTO Horsepower							
Ford 3000 8-speed	SRP	3,480	2,509	3,577	3,894	2,341		
	NWP	2,540	2,057	2,611	2,843	1,920		
International Harvester 434	SRP		3,398	2,604	3,509	2,301	3,591	2,359
	NWP		2,480	2,135	2,562	1,887	2,621	1,934
Massey-Ferguson 135	SRP		3,520	2,453	3,730	2,208		
	NWP		2,570	2,012	2,723	1,811		
Average	SRP	3,480	2,509	3,495	3,707	2,281	3,591	2,359
	NWP	2,540	2,057	2,551	2,707	1,871	2,621	1,934
	45—60 PTO Horsepower							
Deere 710	SRP		4,600	3,558	4,700	2,727	4,825	2,727
	NWP		3,358	2,918	3,431	2,236	3,522	2,236
Ford 4000 8-speed <sup>1</sup>	SRP	4,311	2,933	4,445	4,690	2,794		
	NWP	3,147	2,405	3,245	3,424	2,291		
Ford 5000 8-speed <sup>1</sup>	SRP	5,237	3,121	5,465	5,731	3,035		
	NWP	3,823	2,477	3,989	4,184	2,489		
Massey-Ferguson 165	SRP		4,943	3,137	4,976	2,962		
	NWP		3,608	2,572	3,632	2,429		
Average	SRP	4,774	3,027	4,863	5,024	2,880	4,825	2,727
	NWP	3,485	2,441	3,550	3,668	2,361	3,522	2,236

TABLE 4.8 (Concluded)

Massey-Ferguson 175 12-speed <sup>2</sup>	SRP	60-75 PTO Horsepower			
	NWP	6,716	3,685	7,035	3,474
		4,903	3,022	5,136	2,849
Deere 4020 row crop	SRP	90-100 PTO Horsepower			
	NWP	8,203	8,635	8,620	8,439
		5,988	7,081	6,293	6,920
Deere 5020 row crop	SRP	Over 100 PTO Horsepower			
	NWP	13,401	14,872	14,088	14,559
		9,783	12,195	10,284	11,938
					10,340
					14,165
					9,467
					6,911
					8,406
					6,893

<sup>1</sup> 1968 prices for the Ford 4000 and 5000 in Britain are for the new line of tractors. These have been compared to the "old line" in Canada since the new line was introduced in Canada only in 1969. Thus, the 1968 price differences would probably have been larger if identical models had been compared. Maximum PTO horsepower of new and old models are:

	Old Models	New Models
4000 8-speed	46.71	52.65
5000 8-speed	55.96	67.23

The 5000 has been included in the 45 to 60 PTO horsepower group since the model sold in Canada in 1968 was in this range.

<sup>2</sup> The Massey-Ferguson 175 sold in Canada has been compared to the Massey-Ferguson 178 sold in Britain in 1968 (the 175 was not offered for sale in Britain in that selling season). Since the 178 is larger in maximum PTO horsepower (manufacturer's rating of 69 as opposed to 63 for the 175) the price differences for 1968 are probably understated.

<sup>3</sup> Net wholesale prices were calculated from dealer discount industry averages - 27 per cent in Canada, .18 per cent in Britain.

<sup>4</sup> Ford tractors sold in Canada in 1966 are F.O.B., Highland Park, Michigan; those sold in Canada in 1967 and 1968 are manufactured in Britain and are F.O.B. East Coast of Canada.

Sources: Company price lists; *Farm Mechanization and Buildings* (Various Editions); International Harvester comparisons for 1968 and 1969 supplied in a letter from the company.

TABLE 4.9—TRACTOR PRICE DIFFERENCES, SUGGESTED RETAIL PRICES (SRP) AND NET WHOLESale PRICES (NWP),  
BRITAIN HIGHER/(LOWER) THAN CANADA, 1966 TO 1969 SELLING SEASONS  
(Canadian dollars)

		Pre-devaluation		Post-devaluation	
		1966 Selling Season	1967 Selling Season	1968 Selling Season	1969 Selling Season
Ford 3000 8-speed	SRP	(971)	Under 45 PTO Horsepower		
	NWP	(483)	(992)	(1,553)	
International Harvester 434	SRP		(491)	(923)	
	NWP		(794)	(1,208)	(1,232)
Massey-Ferguson 135	SRP		(345)	(675)	(687)
	NWP		(1,067)	(1,522)	
Average	SRP	(971)	(558)	(912)	
	NWP	(483)	(951)	(1,428)	(1,232)
Deere 710	SRP		(465)	(837)	(687)
	NWP		45-60 PTO Horsepower		
Ford 4000 8-speed <sup>1</sup>	SRP		(1,042)	(1,973)	(2,098)
	NWP		(440)	(1,195)	(1,286)
Ford 5000 8-speed <sup>1</sup>	SRP	(1,378)	(1,461)	(1,896)	
	NWP	(742)	(798)	(1,133)	
Massey-Ferguson 165	SRP	(2,116)	(2,255)	(2,696)	
	NWP	(1,346)	(1,357)	(1,695)	
Average	SRP		(1,806)	(2,014)	(2,098)
	NWP		(1,036)	(1,203)	(1,286)
	SRP	(1,747)	(1,641)	(2,145)	
	NWP	(1,044)	(908)	(1,307)	



TABLE 4.9 (Concluded)

Massey-Ferguson 175 12-speed <sup>2</sup>		60-75 PTO Horsepower	
	SRP	(3,081)	(3,561)
	NWP	(1,881)	(2,287)
Deere 4020 row crop		90-100 PTO Horsepower	
	SRP	432	(181)
	NWP	1,093	627
Deere 5020 row crop		Over 100 PTO Horsepower	
	SRP	1,471	471
	NWP	2,412	1,654
			394
			1,598

<sup>1</sup> 1968 prices for the Ford 4000 and 5000 in Britain are for the new line of tractors. These have been compared to the "old line" in Canada since the new line was introduced in Canada only in 1969. Thus, the 1968 price differences would probably have been larger if identical models had been compared. Maximum PTO horse-power of new and old models are:

	Old Models	New Models
4000 8-speed	46.71	52.65
5000 8-speed	55.96	67.23

The 5000 has been included in the 45 to 60 PTO horsepower group since the model sold in Canada in 1968 was in this range.

<sup>2</sup> The Massey-Ferguson 175 sold in Canada has been compared to the Massey-Ferguson 178 sold in Britain in 1968 (the 175 was not offered for sale in Britain in that selling season). Since the 178 is larger in maximum PTO horsepower (manufacturer's rating of 69 as opposed to 63 for the 175), the price differences for 1968 are probably understated.

Source: Calculated from Table 4.8.

TABLE 4.10—TRACTOR PRICE RELATIVES, CANADA = 100,  
SUGGESTED RETAIL PRICES (SRP) AND NET WHOLESALE PRICES (NWP), 1966 TO 1969 SELLING SEASONS

	Pre-devaluation		Post-devaluation	
	1966 Selling Season	1967 Selling Season	1968 Selling Season	1969 Selling Season
		Under 45 PTO Horsepower		
Ford 3000 8-speed	72	72	60	
	81	81	68	
International Harvester 434		77	66	66
		86	74	74
Massey-Ferguson 135		70	59	
		78	67	
Average	72	73	62	66
	81	82	70	74
		45-60 PTO Horsepower		
Deere 710		77	58	57
		87	65	63
Ford 4000 8-speed <sup>1</sup>	68	67	60	
	76	75	67	
Ford 5000 8-speed <sup>1</sup>	60	59	53	
	65	66	59	
Massey-Ferguson 165		64	59	
		71	67	
Average	63	67	58	57
	70	75	65	63

TABLE 4.10 (Concluded)

Massey-Ferguson 175 12-speed <sup>2</sup>		60-75 PTO Horsepower	
	SRP	55	49
	NWP	62	55
Deere 4020 row crop		90-100 PTO Horsepower	
	SRP	105	98
	NWP	118	110
Deere 5020 row crop		Over 100 PTO Horsepower	
	SRP	111	103
	NWP	125	115

<sup>1</sup> 1968 prices for the Ford 4000 and 5000 in Britain are for the new line of tractors. These have been compared to the "old line" in Canada since the new line was introduced in Canada only in 1969. Thus, the 1968 price differences would probably have been larger if identical models had been compared. Maximum PTO horse-power of new and old models are:

	Old Models	New Models
4000 8-speed	46.71	52.65
5000 8-speed	55.96	67.23

The 5000 has been included in the 45 to 60 PTO horsepower group since the model sold in Canada in 1968 was in this range.

<sup>2</sup> The Massey-Ferguson 175 sold in Canada has been compared to the Massey-Ferguson 178 sold in Britain in 1968 (the 175 was not offered for sale in Britain in that selling season). Since the 178 is larger in maximum PTO horsepower (manufacturer's rating of 69 as opposed to 63 for the 175), the price differences for 1968 are probably understated.

Source: Calculated from Table 4.8.

These comparisons show that both the suggested retail price (SRP) and the net wholesale price to the dealer (NWP) have increased further in Canada relative to the level in Britain since devaluation. In the three size classes listed above, the difference in the suggested retail price between Canada and Britain has increased by about \$500 while the difference in the net wholesale price has increased by some \$400. As a result, suggested retail prices in Britain, which in the 1967 selling season for tractors were from 55 to 73 per cent of the Canadian level for identical tractors, by 1968 were only 49 to 62 per cent of the Canadian level. Similarly, at the dealer price level, whereas British prices in 1967 were 62 to 82 per cent of the Canadian level, by the 1968 selling season British prices were only 55 to 70 per cent of Canadian levels. It is clear that for tractors of 75 HP and under, the price differences that now exist are very wide indeed and offer the British farmer a significant competitive advantage over the Canadian farmer.

For the two tractors in the 90 HP and over group on which data were available, Deere's models 4020 and 5020, the price difference between Canada and Britain has narrowed significantly. Whereas in 1967 the net wholesale prices to the dealer on these tractors were \$1,100 and \$2,400 *higher* in England than in Canada, by 1969 these differences had narrowed to \$18 *lower* and \$1,600 *higher*. This change must reflect a change in company pricing policy, since sterling devaluation would not change the dollar price of tractors supplied from North America. In fact, the sterling price would need to rise to provide the same dollar return after devaluation. A reduction in the dollar price would be needed, however, to maintain the same competitive price relationship in sterling relative to British and other European-produced tractors as existed prior to devaluation. This undoubtedly explains the change in the price of these tractors.

A comparison of pre- and post-devaluation prices in Canada and Britain for tractors in the under 75 HP category suggests that virtually none of the effect of devaluation has been passed on in the form of lower prices in Canada. The pound sterling was devalued about 14.3 per cent in November 1967. If the net factory price in England to the Canadian wholesale organization had remained unchanged in pounds sterling, the price to the Canadian subsidiary would have declined by 14.3 per cent. In fact, in so far as net wholesale prices can be taken as indicative, the sterling prices to Canadian subsidiaries were apparently advanced by the full amount of the devaluation. The results of a comparison of eight tractors of four different companies, Ford, Massey-Ferguson, Deere, and International Harvester, are shown in Table 4.11.

While there are variations in detail, the over-all picture is clear. Over the period from 1967 to 1968, the increase in the prices of these tractors, all of which are produced in Western Europe, has been almost the same in Canada as it has in Britain. Yet if the tractor had been supplied to the wholesale organization in the two countries at the same price in sterling, the Canadian price should have declined by about 8.9 per cent, compared with the 6.3 per cent increase that occurred. While conspiracy may be too harsh a word, these data suggest at least a tacit agreement on the part of manufacturers supplying tractors to Canada from Britain to maintain the price in Canada, in spite of the advantage afforded by devaluation.

Several effects of this apparent pricing policy should be noted. First, the maintenance of the same dollar price on export sales would very substantially increase the profits to the British manufacturer in pounds sterling as compared to



TABLE 4.11—NET WHOLESALE PRICE CHANGES IN TRACTORS,  
PRE-DEVALUATION TO POST-DEVALUATION, MAJOR INTERNATIONAL COMPANIES,  
CANADA AND BRITAIN COMPARED, 1967 TO 1968 EXPRESSED AS PERCENTAGE OF  
1967 NET WHOLESALE PRICE

	Price Increase in Canada	Price Increase/(Decrease) in Britain	
	Canadian dollars	Canadian dollars <sup>1</sup>	Pounds sterling <sup>1</sup>
Under 45 HP	6.1%	(10.3%)	4.6%
45 to 60 HP	3.3%	(10.6%)	4.3%
60 to 75 HP	4.8%	(5.7%)	10.0%
Average	4.7%	(8.9%)	6.3%

<sup>1</sup> Conversion rates: 1967 £ sterling = \$3.01; 1968, \$2.58.

Source: Calculated from Table 4.8.

his pre-devaluation profits. Prior to devaluation \$1 million would yield £332,000. After devaluation the same \$1 million would yield £388,000. Indeed, on reasonable assumptions it can be shown that the maintenance of dollar prices would increase the sterling value of the margin available between the factory cost of goods sold and the normal export price by from two to three times. If we take the suggested retail price as 100, the normal export price as 61, and the cost of goods sold at 56, then \$10 million of sales in Canada at suggested list price would have yielded \$6.1 million to the British exporter or £2.03 million. Of this, £1.86 million would be required to cover the cost of goods sold, leaving £170,000 for profit and other cost related to manufacturing. After devaluation the same sales in Canada would yield £2.36 million or a margin of £500,000, almost three times as much. The yield in taxes to the British government would also increase.

However, with no reduction in the net wholesale dollar price of British tractor exports, there would also be no incentive for increased sales of tractors relative to tractors produced in North America or in other countries. Thus the pricing policy apparently being pursued by tractor manufacturers in Britain and their sales associates in Canada largely circumvents the purpose devaluation was designed to achieve, an increase in the sale of British tractors and in receipt of foreign exchange.

If the Canadian farmer could purchase tractors in Britain at the retail prices prevailing there and import them to Canada, he would make a substantial saving on all sizes of tractors up to at least 60 HP. It is useful to estimate just how large this saving might have been on the basis of the prices that prevailed in the 1967 and 1968 selling seasons in the two countries. The 1967 season represents the prices that existed before the pound was devalued. The 1968 selling season represents prices after devaluation. Since the price difference between Canada and Britain has widened as a result of devaluation, the potential saving has also increased. It seems likely that there would be a similar potential saving for the 1969 selling season.

The results of this analysis are shown in Table 4.12. These data indicate that Canadian farmers would have made a cash saving of \$8.6 million in the 1967 selling season and \$14.9 million in the 1968 selling season. The saving for the 1969 or current selling season would be similar to that for 1968, although perhaps

TABLE 4.12—ESTIMATED CASH SAVINGS ACHIEVABLE BY CANADIAN FARMER BY DIRECTLY IMPORTING TRACTORS FROM BRITAIN, 1967 AND 1968

(Canadian dollars)

	1967 Selling Season (Pre-devaluation)			1968 Selling Season (Post-devaluation)		
	35-45 HP		45-60 HP		45-60 HP	
	Canada	Britain	Canada	Britain	Canada	Britain
Total Units Sold in Canada:						
35-40 HP - 6,936 <sup>1</sup>						
40-60 HP - 7,340 <sup>1</sup>						
Average SRP <sup>2</sup>	\$3,495	\$2,545	\$4,863	\$3,222	\$3,707	\$2,281
Price paid by farmer	84% of SRP	93% of SRP	84% of SRP	93% of SRP	84% of SRP	93% of SRP
	\$2,936	\$2,367	\$4,085	\$2,996	\$3,114	\$2,121
Ocean freight & handling est.		160		200		160
Additional domestic freight est.		50		50		50
Total	\$2,936	\$2,577	\$4,085	\$3,246	\$3,114	\$2,331
Cash saving per machine	\$359		\$839		\$783	
Total possible saving to Can. farmers (cash saving x No. of units)	\$2,490,000		\$6,158,000		\$5,431,000	
Total possible saving, both ranges (rounded)		\$8.6 m		\$14.9 m		\$1,292

<sup>1</sup>Figures and HP breakdown based on DBS Merchandising and Services Division, *Farm Implement and Equipment Sales 1967* (Ottawa: Queen's Printer, 1969).

<sup>2</sup>Average SRP based on HP breakdown from Table 4.8.

Note: These estimates were prepared using the following assumptions:

1. The farmer would pay 93 per cent of the British suggested retail price and actually paid 84 per cent of the Canadian suggested retail price.
2. The Canadian farmer would pay slightly more than the farm machinery companies for domestic and ocean freight and handling costs.
3. The Canadian dealer would honour the British dealer's warranty or the export price would be reduced by the average warranty cost. Since warranty costs are probably higher in Canada, the estimated total savings may be somewhat overstated.
4. The Canadian farmer would be able to obtain credit to finance his purchases without difficulty and at the same rate as would be charged by a Canadian dealer. He would, of course, need much less cash or credit if he bought at British prices.
5. There would be no additional cost of ordering from Britain.
6. Ford tractors make up a significant segment of the tractors sold in Britain. 1968 average prices in Britain reflect the "new line" Ford 4000 and 5000 in the 40 to 60 HP range. In Canada, "old line" Ford prices are used because the "new line" was not introduced into Canada until 1969. For this reason, the 1968 price differences could be even larger than those shown.

somewhat smaller because the volume of sales is likely to be down. However, these estimates take no account of the fact that farmers might have purchased more tractors at the lower price. It is clear that the savings are very substantial and that Canadian farmers have a large stake in obtaining access to the lower price levels prevailing in Britain.

In making this saving, it must be recognized, the farmer would lose the advantage of having tractors stocked on dealer lots in Canada for immediate delivery. The estimated saving was confined to the horsepower range below 60 HP even though the tractors available in the 60 to 75 HP group are also lower in price in Britain. The tractors available in this group in Britain are just slightly over 60 HP in size and for this reason, it could be argued, are not representative of the group as a whole. Nevertheless, there is some evidence that European manufacturers are beginning to produce larger tractors, and this trend may well continue. If these larger tractors were also available at European prices, the savings to Canadian farmers would be very much larger than the amounts shown in Table 4.12.





## Chapter 5

### PRICE DIFFERENCES BETWEEN COMPANIES IN CANADA FOR TRACTORS AND COMBINES

To understand how the prices of tractors and combines produced in Europe relate to the Canadian market, it is useful to examine the current price structure in Canada. How do the prices charged by the various farm machinery companies in Canada differ for equivalent or essentially equivalent tractors and combines? How do the prices of imported machines compare with those produced in North America? This chapter compares the machines sold by the different companies on the basis of their suggested retail prices. For all companies this latter price is higher than the price the farmer actually pays, for dealers typically give an over-allowance on trade-ins or a cash discount. Still, for all the major companies, the discount including volume bonus is fairly similar – about 27 per cent. Thus, for these companies, a comparison of suggested retail prices can be taken as representative of other prices, such as the price paid by the farmer or the net price to the dealer. Only for some of the smaller companies who provide larger discounts to their dealers will there be some divergence among these three levels of price. A comparison of prices will be made first for tractors and then for combines.

#### Tractors

To facilitate comparison of the prices charged by the different companies selling tractors in Canada, tractors were divided into seven horsepower groups, ranging from 30 to 45 HP at the bottom to 115 to 135 at the top. Separate attention was given to the prices of the large four-wheel-drive tractors. Within each group, prices were standardized so that the tractors being compared were identical in respect to options, tire sizes, and special equipment. However, within any group, the models offered by different companies vary in their horsepower capacity. In order to eliminate this difference, prices were also calculated on a per horsepower basis. Table 5.1 presents the prices of the different tractors in terms of their list prices and the price per PTO horsepower. The prices are those for the 1967 selling season.

The horsepower rating used in these comparisons is the maximum power take-off (PTO) horsepower at rated engine revolutions per minute (r.p.m.), as reported in the Nebraska tractor tests.<sup>1</sup> This power take-off horsepower provides the best measure of the power available from the tractor engine. The actual drawbar horsepower that can be provided for any pulling job will vary from tractor to tractor, depending on the type and efficiency of the transmission and such factors as tire size and weight distribution. However, on the average, drawbar horsepower is equal to from 88 to 90 per cent of power take-off horsepower.<sup>4</sup>

Although the comparisons provided in Table 5.1 attempt to standardize tractor specifications, they cannot eliminate all differences. Tractors vary in design, in quality, in reliability, and in the supporting services provided by the company, such as warranty, and spare parts service. Thus, some of the price differences shown in these comparisons will reflect these other considerations. Each company normally makes minor changes in its line of tractors every year or two, and major

---

<sup>1</sup>“Nebraska Test Reports,” *Implement and Tractor, Farm Equipment Red Book* (Kansas City, Missouri: Implement and Tractor Publications, Inc., published annually).

TABLE 5.1—INTER-COMPANY TRACTOR PRICE COMPARISONS, CANADA  
1967 SELLING SEASON

Company and Model	Engine		Max. PTO HP at Rated Engine r.p.m. <sup>1</sup>	Price per PTO HP	Suggested Retail Price	Price Based, F.O.B.
	G = Gas	D = Diesel				
Group 1: 30-45 PTO HP						
Allis-Chalmers, D-12 Series III	G		33.3	\$100.26	\$3,340	Milwaukee, Wisc.
	D		36.5	130.73	4,773	Milwaukee, Wisc.
	G		46.2	86.14	3,978	Milwaukee, Wisc.
Allis-Chalmers, D-15 Series II	D		39.1	95.88	3,745	Hamilton, Ontario
	D		32.1	103.36	3,320	Not indicated
David Brown 770 Selectamatic	D		34.4	108.89	3,744	Racine, Wisc.
	G		33.1	101.13	3,348	Racine, Wisc.
	D		41.3	113.31	4,676	Racine, Wisc.
J.I. Case 430 Standard	D		35.0*	125.54	4,394	Winnipeg, Manitoba
	D		39.2	108.32	4,247	Charles City, Iowa
	G		41.4	88.69	3,671	Charles City, Iowa
J.I. Case 530 General Purpose	D		38.5*	86.96	3,348	Eastern Seaboard
	D		37.5*	89.33	3,350	Montreal, Quebec
C.C.I.L. (Deutz), D-40L	D		38.9	90.54	3,524	Dubuque, Iowa
	G		38.8	81.76	3,174	Dubuque, Iowa
Cockshutt 550	D		31.2	107.29	3,346	East Coast Port
	G		30.9	102.03	3,148	East Coast Port
Cockshutt 1250	D		39.2	92.05	3,608	East Coast Port
	G		37.8	90.77	3,435	East Coast Port
John Deere 510	D		36.9	90.60	3,344	Montreal, Quebec
	D		37.0	84.73	3,132	Montreal, Quebec
John Deere 1020 RU	G		36.7	105.55	3,874	Louisville, Ky.
	G		37.8	93.08	3,520	Detroit, Michigan
John Deere 1020 RU	D		35.4	94.56	3,345	Detroit, Michigan
	G					
Ford 2000, All Purpose (8-Speed)	D					
	G					
Ford 2000, All Purpose (8-Speed)	D					
	G					
Ford 3000, All Purpose (8-Speed)	D					
	G					
Ford 3000, All Purpose (8-Speed)	D					
	G					
International Harvester, Int. 434	D					
	G					
International Harvester, Int. 434	D					
	G					
International Harvester, Farmall 404	D					
	G					
Massey-Ferguson, MF 135 Deluxe	D					
	G					
Massey-Ferguson, MF 135 Deluxe	D					
	G					

TABLE 5.1 (Continued)

Group 2: 45-60 PTO HP						
Allis-Chalmers, D-17 Series IV B.M.C. Nuffield 10/60 David Brown 990 Selectamatic J.I. Case 730 Comfort King General Purpose C.C.I.L. (Deutz), D-5505 Cockshutt 770 Wheatland Cockshutt 1550 Wheatland John Deere 710 John Deere 2020 RU Ford 4000 All Purpose (8-Speed) Ford 5000 All Purpose (8-Speed) International Harvester, Int. 504 Massey-Ferguson, MF 165 Standard Clearance	D	51.1	\$127.27	\$6,509	Milwaukee, Wisc.	
	D	55.4	91.29	5,054	Hamilton, Ontario	
	D	52.1	96.66	5,036	Not indicated	
	D	56.4	117.64	6,639	Racine, Wisc.	
	D	52.0*	140.21	7,291	Winnipeg, Manitoba	
	D	48.8	119.19	5,817	Charles City, Iowa	
	D	53.5	127.01	6,795	Charles City, Iowa	
	D	46.7*	106.40	4,969	Montreal, Quebec	
	D	54.1	105.18	5,690	Dubuque, Iowa	
	D	46.7	102.20	4,774	East Coast Port	
	D	56.0	111.17	6,221	East Coast Port	
	D	46.0	120.38	5,536	Rock Island, Ill.	
	D	52.4	98.69	5,173	Detroit, Michigan	
Group 3: 60-75 PTO HP						
J.I. Case 830 Comfort King Standard J.I. Case 830 Comfort King General Purpose Cockshutt 1650 Wheatland Cockshutt 1650 Row Crop John Deere 3020 Standard John Deere 3020 Row Crop Ford Commander 6000 All Purpose Ford Commander 6000 Row Crop	Utility	D	64.3	\$109.86	Racine, Wisc.	
	Row Crop	D	64.3	115.68	7,433	Racine, Wisc.
	Utility	D	66.3	109.78	7,276	Charles City, Iowa
	Row Crop	D	66.3	104.45	6,923	Charles City, Iowa
	Utility	D	65.3	111.52	7,280	Waterloo, Iowa
	Row Crop	D	65.3	114.76	7,492	Waterloo, Iowa
	Utility	D	66.9	105.00	7,027	Highland Park, Mich.
	Row Crop	D	66.9	107.15	7,171	Highland Park, Mich.

TABLE 5.1 (Continued)

Company and Model	Configuration	Engine	Max. PTO HP at Rated Engine r.p.m. <sup>1</sup>	Price per PTO HP	Suggested Retail Price	Price Based, F.O.B.
		G = Gas D = Diesel				
Group 4: 75-90 PTO HP						
International Harvester, Int. 656	Utility	D	61.5	not produced until 1968		Rock Island, Ill.
International Harvester, Farmall 656	Row Crop	D	61.5	\$122.10	\$7,511	
Massey Ferguson, MF 175 Standard Clearance	Utility	D	63.3	107.68	6,820	Detroit, Michigan
Massey Ferguson, MF 180 Row Crop	Row Crop	D	63.7	113.55	7,238	Detroit, Michigan
Minneapolis-Moline, M-670 Standard	Utility	D	71.0	97.54	6,925	Minneapolis, Minn.
Minneapolis-Moline, M-670 Row Crop	Row Crop	D	71.0	98.68	7,007	Minneapolis, Minn.
Group 5: 90-100 PTO HP						
Allis-Chalmers 190	Western	D	77.2	\$106.84	\$8,248	Milwaukee, Wisc.
Allis-Chalmers 190	Row Crop	D	77.2	102.59	7,920	Milwaukee, Wisc.
J.I. Case 930 Comfort King Standard	Western	D	85.4	104.51	8,924	Racine, Wisc.
J.I. Case 930 General Purpose	Row Crop	D	85.4	97.55	8,330	Racine, Wisc.
C.C.I.L. (Deutz) D-8005	Row Crop	D	80.0*	112.58	9,006	Winnipeg, Manitoba
International Harvester, Int. 706	Western	D	76.1	112.64	8,571	Rock Island, Ill.
International Harvester, Farmall 706	Row Crop	D	76.1	104.92	7,983	Rock Island, Ill.
Group 5: 90-100 PTO HP						
Allis-Chalmers 190 XT	Western	D	93.6	\$ 95.11	\$8,906	Milwaukee, Wisc.
Allis-Chalmers 190 XT	Row Crop	D	93.6	91.60	8,578	Milwaukee, Wisc.
Cockshutt 1850 Wheatland	Western	D	92.9	97.39	9,052	Charles City, Iowa
Cockshutt 1850 Row Crop	Row Crop	D	92.9	89.11	8,282	Charles City, Iowa
John Deere 4020 Standard (Synchro-Range)	Western	D	94.9	87.88	8,338	Waterloo, Iowa
John Deere 4020 Row Crop (Synchro-Range)	Row Crop	D	94.9	91.68	8,699	Waterloo, Iowa
International Harvester, Int. 806	Western	D	94.9	102.93	9,771	Rock Island, Ill.
International Harvester, Farmall 806	Row Crop	D	94.9	96.90	9,199	Rock Island, Ill.
Massey-Ferguson, MF 1100 Western	Western	D	93.9	102.25	9,605	Detroit, Michigan
Massey-Ferguson, MF 1100 Row Crop	Row Crop	D	93.9	96.02	9,020	Detroit, Michigan



TABLE 5.1 (Concluded)

Group 6: 100-115 PTO HP					
J.I. Case 1032 Special	Western	D	101.8	\$100.32	Racine, Wisc.
J.I. Case 1031 General Purpose	Row Crop	D	101.8	95.16	Racine, Wisc.
Cockshutt 1950 Wheatland	Western	D	105.8	106.59	Charles City, Iowa
Cockshutt 1950 Row Crop	Row Crop	D	105.8	98.40	Charles City, Iowa
International Harvester, Int. 1206 Turbo	Western	D	112.6	98.57	Rock Island, Ill.
International Harvester, Farmall 1206 Turbo	Row Crop	D	112.6	99.16	Rock Island, Ill.
Minneapolis-Moline, G1000 Wheatland	Western	D	110.8	88.66	Minneapolis, Minn.
Minneapolis-Moline, G1000 Row Crop	Row Crop	D	110.8	86.80	Minneapolis, Minn.
Group 7: 115-135 PTO HP					
Allis-Chalmers D-21 Series II	Western	D	127.8	92.21	Milwaukee, Wisc.
John Deere 5020 Standard	Western	D	133.3	87.91	Waterloo, Iowa
John Deere 5020 Row Crop	Row Crop	D	133.3	94.71	Waterloo, Iowa
Massey-Ferguson, MF 1130 Western	Western	D	120.5	98.53	Detroit, Michigan
Massey-Ferguson, MF 1130 Row Crop	Row Crop	D	120.5	88.03	Detroit, Michigan

<sup>1</sup> Horsepower figures from Nebraska tests except when marked \* which indicates a manufacturer's estimate.

General Notes: 1) The problem of specification comparability is discussed fully in Appendix C. Tables C.1 and C.2. For example, a PTO is included for "Western" type tractors, even though it may not be sold as standard in all cases. Only by including such optional items, can price per horsepower (PTO horsepower particularly) be properly calculated on a comparable basis.

2) Nebraska tests: Maximum power taken under actual-operation conditions. The older Nebraska tests are also given in corrected form to the higher level of output at sea level, but in order to maintain consistency with the new series of tests, the lower actual ratings are used.

model changes at longer intervals. Thus, in any given year, the tractors being sold by a given company may be a recently introduced line incorporating recent advances in technology or they may be a line that was introduced a number of years earlier. The competitive position of the different tractor brands in any one year will be affected by this timing of model changes.

Tractors compete in different horsepower groups and the extent of competition varies from one group to another. Consider the pattern of pricing that exists in each group in turn.

In the 30 to 45 HP group, tractors are offered by most companies in both a diesel and gasoline engine model. Diesel engines are typically more expensive on a per horsepower basis, although the difference varies widely from company to company. For tractors manufactured in North America, the following variation is found (extra cost of diesel): Case \$8, Deere \$9, Cockshutt \$20, and Allis-Chalmers \$30 per PTO horsepower. Massey-Ferguson shows a lower price for their diesel model, but they import their diesel engine from Britain and buy their gasoline engine in North America. On imported tractors the differences are smaller, with Ford showing differences of \$2 and \$5, and International Harvester \$6.

If the tractors in the 30 to 45 HP grouping are ranked according to the level of their list price per horsepower, with diesel and gas models ranked separately, there is clear evidence that the imported tractors have tended to bring down the price level for diesel models (see Table 5.2). With minor exceptions, the diesel tractors produced in Europe all have lower prices per horsepower than those produced in North America. In contrast, for the gasoline models, there is no evident relation between the source of the tractor and its price per horsepower.

Noteworthy, too, is the broad range over which the price per horsepower extends. For diesel models, on a per horsepower basis the highest-priced tractor exceeds the lowest-priced tractor by over 50 per cent. For gasoline models the difference is about 30 per cent. If the prices of the three major firms for diesels are compared, their prices are grouped very closely together (within about 5 per cent) both on an absolute price basis and on a price per horsepower basis. On the other hand, for gasoline models, the prices for these three companies are widely dispersed and encompass both the highest and lowest price per horsepower. Since the horsepower group in Table 5.2 covers a broad range, and given the fact that production costs per horsepower decline as the size of tractor increases, it should be recognized that some of the differences in price per horsepower may simply reflect these differences in size. Compare, for example, the gasoline tractors sold by Ford and Allis-Chalmers. In both instances the larger horsepower tractor is significantly lower in price on a per horsepower basis.

Examination of the tractor prices for this horsepower group in Table 5.1 also suggests that almost all companies have at least one tractor in this range priced very close to that of their competitors. Seven different companies have a tractor priced within the narrow range from \$3,340 and \$3,350. While these tractors vary somewhat in horsepower, this provides evidence that for this size of tractor, companies feel it necessary to set a price for a complete tractor very close to that of their competitors. Some of these tractors are imported from Europe where prices are substantially lower. Others originate in the United States where manufacturing costs are significantly higher. Some of these tractors have gasoline engines. Others are diesels. Yet they are all priced within a range of \$10.

TABLE 5.2—DIESEL AND GAS TRACTOR MODELS SOLD IN CANADA, 30-45 HP, RANKED BY PRICE PER PTO HORSEPOWER, 1967 SELLING SEASON

Company	Diesel Models				Gasoline Models			
	Model	PTO HP	Price/HP	Source <sup>1</sup>	Model	PTO HP	Price/HP	Source <sup>1</sup>
Allis-Chalmers	D-15 Series II	36.5	\$130.73	N	Farmall 404	36.7	\$105.55	N
C.C.I.L. (Deutz)	D-40L	35.0	125.54	E	2000 All Purpose	30.9	102.03	E
J.I. Case	530 General Purpose	41.3	113.31	N	430 Standard	33.1	101.13	N
J.I. Case	430 Standard	34.4	108.89	N	D-12 Series III	33.3	100.26	N
Cockshutt	550	39.2	108.32	N	MF 135 Deluxe	35.4	94.56	(E)N
Ford	2000 All Purpose	31.2	107.29	E	3000 All Purpose	37.8	90.77	E
David Brown	770 Selectamatic	32.1	103.36	E	550	41.4	88.69	N
B.M.C. Nuffield	10/42	39.1	95.88	E	D-15 Series II	46.2	86.14	N
Massey-Ferguson	MF 135 Deluxe	37.8	93.08	(E)N	Int. 434	37.0	84.73	E
Ford	3000 All Purpose	39.2	92.05	E	1020 RU	38.8	81.76	N
International Harvester	Int. 434	36.9	90.60	E				
John Deere	1020 RU	38.9	90.54	N				
John Deere	510	37.5	89.33	E				
Cockshutt	1250	38.5	86.96	E				
Average <sup>2</sup>			103.75					

<sup>1</sup> N = North American assembly.

E = European assembly.

(E)N = European parts, North American assembly.

<sup>2</sup> Average calculated, using one entry (averaged as necessary) from each company.

TABLE 5.3—DIESEL TRACTOR MODELS SOLD IN CANADA, 45-60 HP AND 60-75 HP, RANKED BY PRICE PER PTO HORSEPOWER,  
1967 SELLING SEASON

45-60 HP				60-75 HP			
Company	Model	PTO HP	Price/HP Source <sup>1</sup>	Company	Model	PTO HP	Price/HP Source <sup>1</sup>
C.C.I.L. (Deutz) Allis-Chalmers	D-5505	52.0	\$140.21	International Harvester J.I. Case	Farmall 656	61.5	\$122.10
	D-17 Series IV	51.1	127.27		830 Comfort King General Purpose	64.3	115.68
Cockshutt	1550 Wheatland	53.5	127.01	3020 Row Crop	65.3	114.76	
				MF 180 Row Crop	63.7	113.55	
International Harvester Cockshutt	Int. 504	46.0	120.38	3020 Standard	65.3	111.52	
	770 Wheatland	48.8	119.19	830 Comfort King Standard	64.3	109.86	
J.I. Case	730 Comfort King General Purpose	56.4	117.64	1650 Wheatland	66.3	109.78	
Ford John Deere	5000 All Purpose 710	56.0 46.7	111.17 106.40	MF 175 Standard Clearance	63.3	107.68	
				Commander 6000 Row Crop	66.9	107.15	
John Deere	2020 RU	54.1	105.18	Commander 6000 All Purpose	66.9	105.00	
Ford Massey-Ferguson	4000 All Purpose MF 165 Standard Clearance	46.7	102.20	1650 Row Crop	66.3	104.45	
				M-670 Row Crop	71.0	98.68	
David Brown B.M.C. Nuffield	990 Selectamatic 10/60	52.4 52.1	98.69 96.66	M-670 Row Crop			
		55.4	91.29	M-670 Utility	71.0	97.54	
Average <sup>2</sup>			112.77	Average <sup>2</sup>		109.99	

<sup>1</sup> N = North American assembly.

E = European assembly.

(E)N = European parts, North American assembly.

<sup>2</sup> Average calculated, using one entry (averaged as necessary) from each company.



As was true for diesel tractors in the lowest horsepower group, for the next size group of 45 to 60 HP also, there is evidence that tractors imported from Europe have been a competitive force tending to bring tractor prices in Canada down. As Table 5.3 shows, most of the tractors imported from Europe are in the bottom half of the list ranked in order of price per horsepower. However, as was shown in Chapter 4, these tractors are still priced at a very much higher level in Canada than they are in Britain or in other countries in Western Europe.

To a large degree, tractor prices are established for the whole North American market. And in that market there is evidence (which will be presented later in the Commission's Final Report) that John Deere is the price leader who establishes, within the limits that competing firms allow, the effective price level. Deere and International Harvester are the two dominant firms in the U.S. tractor market, and these two firms together exercise a major influence on tractor prices. Imports from Europe have exerted a softening influence on tractor prices in the 60 HP and under category, but have still left them well above the prices for identical tractors in Western Europe.

Again, the data show a wide dispersion in tractor prices on a per horsepower basis. The tractor with the highest price per horsepower in the 45 to 60 HP group exceeds the lowest-priced tractor by about 54 per cent or \$49 per horsepower. Further, the tractors sold by the three major firms in this group differ substantially in price. On a per horsepower basis, Massey-Ferguson's MF 165 sells for about 20 per cent less than International Harvester's 504. Deere offers two models in this group, one of them imported from Europe, that are priced from 7 to 8 per cent above the M-F tractor.

In the 60 to 75 HP group, the imported tractors, including two Massey-Ferguson models, are priced in about the middle of the range. The two lowest-priced models on a per horsepower basis are produced by subsidiaries of the White Motor Company and are manufactured in North America. Although narrower than for the two lower-horsepower groups, the difference between the lowest- and highest-priced tractor on a price per horsepower basis is still substantial — about 25 per cent. Again, the tractors offered by the three major firms vary significantly with the MF 175, selling for about 13 per cent less than International's Farmall 656, on a per horsepower basis.

For tractors of 75 HP and over, there was only one tractor imported from Europe in 1967 — the 80 HP Deutz tractor sold by C.C.I.L. Its list price was just over 5 per cent above the average price per horsepower of the four makes of tractors in the 75 to 90 HP class. As was true of the lower horsepower groupings, in each of the groups above 75 HP, there was a significant difference between the tractors with the lowest and highest price per horsepower. For successive groups above 75 HP, the difference amounted to 15 per cent, 17 per cent, 23 per cent, and 12 per cent. Although International Harvester's tractors were among the highest-priced in each of the groupings in which they appeared, beyond this no clear pattern emerges. The rank of the other companies varies considerably from one group to another.

TABLE 5.4—DIESEL TRACTOR MODELS SOLD IN CANADA, 75-90 HP AND 90-100 HP, RANKED BY PRICE PER PTO HORSEPOWER, 1967 SELLING SEASON

Company	75-90 HP				90-100 HP			
	Model	PTO HP	Price/HP	Source <sup>1</sup>	Model	PTO HP	Price/HP	Source <sup>1</sup>
International Harvester	Int. 706	76.1	\$112.64	N	Int. 806	94.9	\$102.93	N
C.C.I.L. (Deutz)	D-8005	80.0	112.58	E	MF 1100 Western	93.9	102.25	(E)N
Allis-Chalmers	190	77.2	106.84	N				
International Harvester	Farmall 706	76.1	104.92	N	1850 Wheatland	92.9	97.39	N
J.I. Case	930 Comfort King							
	Standard	85.4	104.51	N	Farmall 806	94.9	96.90	N
Allis-Chalmers	190	77.2	102.59	N	MF 1100 Row Crop	93.9	96.02	(E)N
J.I. Case	930 General Purpose	85.4	97.55	N	190 XT	93.6	95.11	N
Average <sup>2</sup>			106.78		4020 Row Crop (Synchro-Range)	94.9	91.68	N
					190 XT	93.6	91.60	N
					Allis-Chalmers			
					1850 Row Crop	92.9	89.11	N
					Cockshutt			
					John Deere			
					Average <sup>2</sup>			
					4020 Standard (Synchro-Range)	94.9	87.88	N
							95.09	

<sup>1</sup> N = North American assembly.

E = European assembly.

(E)N = European parts, North American assembly.

<sup>2</sup> Average calculated, using one entry (averaged as necessary) from each company.

TABLE 5.5—DIESEL TRACTOR MODELS SOLD IN CANADA, 100-115 HP AND 115-135 HP, RANKED BY PRICE PER PTO HORSEPOWER, 1967 SELLING SEASON

Company	100-115 HP				115-135 HP				
	Model	PTO HP	Price/HP	Source <sup>1</sup>	Company	Model	PTO HP	Price/HP	Source <sup>1</sup>
Cockshutt J.I. Case	1950 Wheatland	105.8	\$106.59	N	Massey-Ferguson John Deere	MF 1130 Western	120.5	\$98.53	(E)N
	1032 Special	101.8	100.32	N		5020 Row Crop	133.3	94.71	N
International Harvester	Farmall 1206 Turbo	112.6	99.16	N	Allis Chalmers	D-21 Series II	127.8	92.21	N
International Harvester	Int. 1206 Turbo	112.6	98.57	N	Massey-Ferguson	MF 1130 Row Crop	120.5	88.03	(E)N
Cockshutt J.I. Case Minneapolis-Moline	1950 Row Crop	105.8	98.40	N	John Deere Average <sup>2</sup>	5020 Standard	133.3	87.91 92.27	N
	1031 General Purpose	101.8	95.16	N					
	G1000 Wheatland	110.8	88.66	N					
Minneapolis-Moline Average <sup>2</sup>	G1000 Row Crop	110.8	86.80	N					
			96.71						

<sup>1</sup> N = North American assembly.

E = European assembly.

(E)N = European parts, North American assembly.

<sup>2</sup> Average calculated, using one entry (averaged as necessary) from each company.

In addition to the high horsepower tractors listed in Tables 5.4 and 5.5, three companies – Case, International Harvester, and Versatile – offer four-wheel-drive tractors. The price differences for these tractors, which are presented in Table 5.6, show that the Versatile tractor is very much lower in price, both in absolute terms and on a per horsepower basis. On a per horsepower basis, the Case model was 79 per cent higher in price and the International Harvester model 82 per cent higher than the tractor offered by Versatile. Further details about these three tractors are given in Appendix C.

TABLE 5.6—DIFFERENCES IN PRICES IN FOUR-WHEEL-DRIVE TRACTORS,  
1967 SELLING SEASON

<u>Machines Compared</u>	<u>Suggested Retail Price</u>	<u>Price Relative to Versatile</u>	<u>Drawbar HP<sup>1</sup></u>	<u>Price per Drawbar HP</u>	<u>Price per Drawbar HP Relative to Versatile</u>
Case 1200	\$16,520	165	99.27	\$151.53	179
I-H 4100	\$17,894	179	116.15	\$154.06	182
Versatile (Cummins V6 Diesel)	\$ 9,996	100	118.0*	\$ 84.71	100

<sup>1</sup>Nebraska test data except where marked \* which is manufacturer's test data.

### Combines

For combines there are no basic data available similar to those provided on tractors by the Nebraska tests. To facilitate the comparison of combine prices, use was made of dealer selling aids provided by Massey-Ferguson and International Harvester. These aids compare for the different companies, combine models that are regarded as competitive. For comparison, combines were placed in four size groups. Prices were taken for the 1968 selling season.

The two sales aids showed fairly close agreement on the combines that should be included in each of the four size groups. They agreed completely on all the combines sold by Case, Deere, Ford, and Massey-Ferguson. For two of the four groups, they also agreed on the combines sold by Cockshutt and International Harvester. Since the two aids were dated October 1967 and June 1968, the latter included newer models for New Holland and Allis-Chalmers.

The combines selected in each group were then brought to an equal specification level, so that items that were optional on some but standard on others were included for all, and so that items that had to be specified – such as tire sizes – were standardized. Minneapolis-Moline's combines were omitted since they were functionally identical with the Cockshutt combines, although their prices may have been different. The results of this comparison are presented in Table 5.7.

Analysis of these data shows that while in each group there are a number of machines whose prices are grouped very closely together – within 5 per cent – there are also a number of combines whose prices are either significantly above or below this central price level. Thus, in Group 1, where the combines of six companies are represented, three brands sell withing a range of 2 per cent, but two others are 3 to 10 per cent below the average of these three, and the remaining



TABLE 5.7—COMPARISON OF SELF-PROPELLED COMBINE PRICES, CANADA, 1968 SELLING SEASON

(For detailed specifications, see Table C.5)

	GROUP 1				GROUP 2				GROUP 3				GROUP 4			
	Suggested Retail Price \$	Percent- age of Group Average Price	Percent- age of Average 'Big Three' Price	Percent- age of Group Average Price	Suggested Retail Price \$	Percent- age of Group Average Price	Percent- age of Average 'Big Three' Price	Percent- age of Group Average Price	Suggested Retail Price \$	Percent- age of Group Average Price	Percent- age of Average 'Big Three' Price	Percent- age of Group Average Price	Suggested Retail Price \$	Percent- age of Group Average Price	Percent- age of Average 'Big Three' Price	Percent- age of Group Average Price
Allis-Chalmers	9,315	110.7	115.4	—	—	—	—	11,448	102.6	97.1	13,555	99.1	13,555	97.1	95.7	95.7
J.I. Case	8,503	101.1	105.4	98.1	9,710	99.7	99.7	11,610	104.0	98.5	14,022	102.5	14,022	102.5	99.0	99.0
C.C.I.L. (Claas)	—	—	—	—	—	—	—	10,871	97.4	92.2	13,780	100.7	13,780	100.7	97.3	97.3
Cockshutt	8,446	100.4	104.6	100.9	9,982	102.5	102.5	9,953	89.2	84.4	12,034	88.0	12,034	88.0	85.0	85.0
John Deere	8,407	99.9	104.2	104.5	10,341 <sup>1</sup>	106.2	106.2	12,357 <sup>1</sup>	110.7	104.8	14,488	105.9	14,488	105.9	102.3	102.3
Ford Motor Company (Claas)	—	—	—	101.7	10,064	103.3	103.3	11,569	103.6	98.2	13,361	97.7	13,361	97.7	94.4	94.4
International Harvester	7,636	90.8	94.6	99.0	9,792	100.6	100.6	11,596	103.9	98.4	14,343	104.8	14,343	104.8	101.3	101.3
Massey-Ferguson	8,171	97.1	101.2	91.8	9,082	93.3	93.3	11,407	102.2	96.8	13,646	99.7	13,646	99.7	96.4	96.4
New Holland	—	—	—	104.0	10,289	105.7	105.7	11,920	106.8	101.1	13,899	101.6	13,899	101.6	98.2	98.2
Versatile	—	—	—	—	—	—	—	8,900	79.7	75.5	—	—	—	—	—	—
Average (unweighted) price for group	8,413	100.0	—	100.0	9,894	100.0	—	11,163	100.0	—	13,681	100.0	—	—	—	—
Average (unweighted) price for "big three" (John Deere, Inter- national Harvester, Massey- Ferguson)	8,071	95.9	100.0	98.4	9,738	100.0	100.0	11,787	105.6	100.0	14,159	103.5	—	—	100.0	100.0

<sup>1</sup> Prices are for Deere models 55 (Group 2) and 95 (Group 3), made in United States plants. Prices for Deere German combines 430 (Group 2) \$10,039 and 630 (Group 3) \$12,209 are almost identical to the similarly equipped combines made in the United States. Chief specification difference is substitution of diesel engine in Europe for gasoline in North America (1969 prices).

combine is some 10 per cent higher in price. Again, in Group 2, with seven machines competing, four companies sell their combines within a range of 4 per cent of one another but one of the remaining machines, Massey-Ferguson's, is priced 8 per cent below the average level of the four. A similar, if somewhat less dispersed, pricing pattern appears in Group 3. With 10 combines competing, five fall within a range of 7.5 per cent. But the Cockshutt machine is priced 13.7 per cent below the average price for this central group of five, and the price of the Versatile machine is almost 23 per cent lower. In contrast, Deere's highest-priced machine in Group 3 sells for 7 per cent higher. Again, in Group 4 the pattern is similar. Some six out of the nine competing combines fall within a price range of about 5 per cent of each other. Yet, for two of the remaining combines, the price of Cockshutt's was about 12 per cent below the average of the other seven, and Deere's price was about 6 per cent higher.

If a comparison is made between the prices of the three major firms in the industry — Deere, International Harvester, and Massey-Ferguson — it is found that, except for Group 1, Massey-Ferguson has consistently the lowest-priced combine among this trio. Deere's combine is uniformly the highest-priced machine. Although the prices given in Table 5.7 are for Canada, they are probably representative of the price differences that exist between these various companies in North America as a whole.

Versatile, a relative newcomer to the combine production field, was represented in Group 3 only, with a combine priced 20 per cent below the average price for the group as a whole. In its cylinder size, separating area, grain area, and engine horsepower, Versatile's combine specifications were in each case above the lowest of the group. Special options that were marked "not available" on Versatile machines were also marked "not available" for other makes of machines in the group.

## Chapter 6

### MANUFACTURING COSTS AND INTERNATIONAL PRICES

An analysis of tractor manufacturing cost data available to the Commission<sup>1</sup> reveals three major conclusions, each of which has an important bearing on the pattern of tractor prices and the trend of international competition in agricultural tractor production.

1. Over the range of annual output from 20,000 to 90,000, tractor manufacturing costs per unit decline about 20 per cent, falling 12 per cent between 20,000 and 60,000 units and a further 8.5 per cent between 60,000 and 90,000 units. Some further reduction in costs may occur beyond 90,000 units, but precise data on the extent of this cost reduction are not available.
2. Tractor production costs per horsepower decline significantly as the size of tractor produced increases, but the current pattern of tractor pricing does not fully reflect this cost pattern.
3. Tractor manufacturing costs in Western Europe at current price and exchange rate levels are significantly lower than those in North America.

In the present chapter, each of these conclusions will be elaborated and supported in some detail, and its implications for the present pattern of tractor pricing and competition among tractor producers will be examined. Unfortunately, no data of comparable precision are available on combine manufacturing costs. However, some of the conclusions applying to tractors may well apply to combines also.

#### Economies of Scale in Tractor Production

The special study of economies of scale in tractor manufacturing carried out in collaboration with the Commission by the management engineering firm Booz, Allen & Hamilton Canada Ltd. reveals the following pattern of manufacturing costs at three specified levels of annual output.

Annual output	20,000	60,000	90,000
Cost per unit (\$U.S.)	3,875	3,412	3,121
Cost per unit (\$Cdn.)	4,166	3,688	3,354

The costs are for a relatively new factory as of 1967-68, assumed to have been in operation from two to four years, and incorporating the latest proven technology. The manufacturing cost total covers all factory costs, including a 7.5 per cent return on invested capital and all administrative costs at the factory level. It does not cover the cost of developing and designing a line of tractors but does include the cost of all tools and facilities needed to manufacture it. Salaries, materials costs, building, machinery, and other costs were taken at the levels that

---

<sup>1</sup>Royal Commission on Farm Machinery, *Farm Tractor Production Costs: A Study in Economies of Scale, Study No. 2* (Ottawa: Queen's Printer, 1969).

existed at that time in the Chicago-Moline area. Wage rates are taken at levels prevailing in Brantford.

It was assumed that the plant would manufacture three basic sizes of tractors, in proportions corresponding roughly to those currently sold in North America. Thus it was specified that 30 per cent of the volume would be 40 HP tractors, 60 per cent would be 90 HP, and 10 per cent would be 130 HP. A limited number of options were costed, but space was allowed for a complete range of options. At each volume level an analysis was carried out of various tractor components to determine the relative economics of manufacturing rather than buying a component. Wherever the manufacture of a component would justify a return of 20 per cent on the investment involved, a decision was made to manufacture rather than buy.

If the above cost data are compared with an estimated average factory selling price per tractor of \$4,000 (U.S.),<sup>2</sup> it becomes apparent that a price high enough to yield a low or moderate profit at a 20,000-unit volume will yield very high profits at the 60,000-unit level and still higher profits at the 90,000-unit level. While the \$4,000 price is to some degree arbitrary, it corresponds roughly to the factory price prevailing in 1967 for the same mix of tractors whose cost was analyzed.

As the data in Table 6.1 reveal, a tractor price which enables a tractor manufacturer with an annual output of 20,000 units to earn 11.8 per cent on his total investment before payment of any corporate income taxes would yield a return, on the same basis, of 32.5 per cent for a manufacturer with an annual output of 60,000 and 44.5 per cent for a manufacturer with an output of 90,000 units. This demonstrates clearly that achieving a reasonable volume of output is crucial to the profitability of a tractor manufacturing operation.

TABLE 6.1 – GROSS PROFIT LEVELS AT DIFFERENT MANUFACTURING VOLUMES, AGRICULTURAL WHEELED TRACTORS, NORTH AMERICAN, 1967

	(U.S. dollars)		
	Annual Outputs		
	20,000	60,000	90,000
	(per tractor)		
Factory price	\$4,000	\$4,000	\$4,000
Manufacturing cost	\$3,875	\$3,412	\$3,121
Gross return	\$ 125	\$ 588	\$ 879
	(total, tractor plant)		
Capital investment (Millions)	\$ 58.0	\$140.1	\$211.9
Gross profit (Millions)	\$ 2.5	\$ 35.3	\$ 79.1
Gross return on assets (before taxes) <sup>1</sup>	11.8%	32.7%	44.8%

<sup>1</sup> Includes 7.5 per cent return on capital incorporated in manufacturing costs, i.e., profit rate calculated from above data plus 7.5 per cent.

Source: Royal Commission on Farm Machinery, *Farm Tractor Production Costs: A Study in Economies of Scale, Study No. 2* (Ottawa: Queen's Printer, 1969), Tables 40, 44, 46, 47.

<sup>2</sup> All costs are shown in U.S. dollars in the study, *ibid.*, Table 44. This table contains a weighted average manufacturing selling price which was developed for the output of the assumed tractor factory, including factory profit. The \$4,000 weighted average price was developed in the tractor production cost study from the average prices per horsepower for tractors sold by the four leading companies in each of three horsepower ranges, overlapping the ranges set out in Chapter 5 of this Report.



In view of this underlying cost configuration, it is surprising to find that four out of the eight manufacturing operations making tractors in significant volume in the United States have annual outputs of less than 20,000 units (see Table 2.1). Moreover, each of these firms has relatively complete manufacturing operations in the sense that they manufacture their engines and transmissions and most other important components of a tractor. Some of these firms, such as Case, obtain additional volume from their light industrial equipment operations. However, this does not fundamentally change the over-all picture. The fact that these firms are able to produce and sell tractors at present price levels suggests that the four firms with a volume of 60,000 and up, either in the United States or on an integrated worldwide basis for tractor components, should be making very substantial profits on their tractor manufacturing operations. As the data in Table 2.1 show, it is estimated that both Deere and International Harvester have annual tractor outputs of around 60,000 units in the United States. While Ford and Massey-Ferguson produce only about 40,000 tractors a year in the United States, their worldwide operations are highly integrated and their world output in 1966 was respectively 118,000 and 154,000, and certain components such as engines are produced in even higher volumes.

#### Manufacturing Costs and Prices by Size of Tractor

The study of tractor manufacturing costs also estimated the manufacturing costs per unit for the three different sizes of tractor incorporated in the study, namely, the 40 HP, 90 HP, and 130 HP models. The results of the analysis are presented in Table 6.2 along with the average suggested retail price per PTO HP of the tractors currently offered for sale in Canada in the different horsepower sizes. The same data are shown graphically in Figure 6.1.

TABLE 6.2 – MANUFACTURING COSTS AND SUGGESTED RETAIL PRICE PER PTO HP,  
(DIESEL TRACTORS) CANADA, 1967 SELLING SEASON, BY SIZE OF TRACTOR  
(Canadian dollars)

Horsepower Range	Suggested List Price per HP <sup>1</sup>	Manufacturing Cost per HP (at 60,000 Annual Output)
30-45	\$115.54 <sup>2</sup>	\$76 <sup>2</sup> (40 HP)
45-60	112.77	
60-75	109.99	
75-90	106.78	
90-100	95.09	42 (90 HP)
100-115	96.71	
115-135	92.27	39 (130 HP)

<sup>1</sup> Data taken from Tables 5.2-5.5.

<sup>2</sup> Includes allowance for cost (\$6.14) or list price (\$11.79) of power steering and "on-the-go" shift.

These data show that the margin available for profit and for selling, distribution and other costs is much larger for the larger-horsepower tractors than it is for the 40 HP model. Thus, the ratio of manufacturing cost to suggested retail price is about 66 per cent for the 40 HP tractor compared with 45 per cent for the 90 HP model and 43 per cent for the 130 HP tractor. It is also noteworthy that these latter two ratios are significantly lower than the over-all ratio of

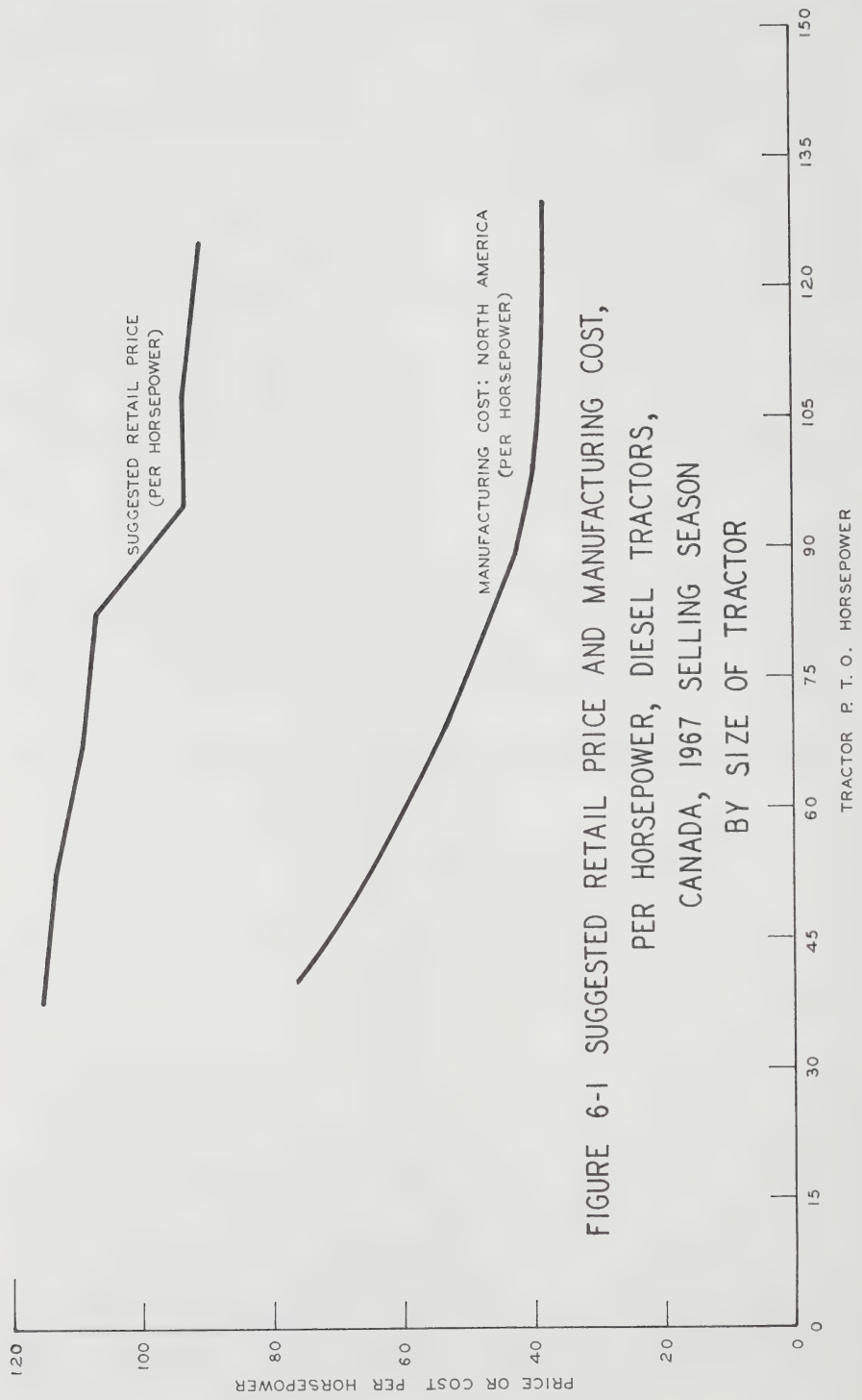


FIGURE 6-1 SUGGESTED RETAIL PRICE AND MANUFACTURING COST,  
PER HORSEPOWER, DIESEL TRACTORS,  
CANADA, 1967 SELLING SEASON  
BY SIZE OF TRACTOR

manufacturing cost to suggested retail price, 52 to 54 per cent, which appears typical of the farm machinery industry, whereas the former ratio is significantly higher. This evidence suggests that profit margins on large-horsepower tractors are appreciably higher than those earned by the industry in North America on all products, whereas profit margins on the smaller-horsepower tractors are significantly below average. This view is consistent with the evidence presented earlier that the competition of imported European tractors had reduced the price of tractors in the lower-horsepower range.

This same conclusion is presented in a slightly different way in Table 6.3 which compares average suggested retail prices for 40, 90, and 130 HP tractors (constructed as noted earlier for the study *Farm Tractor Production Costs*) with the manufacturing costs developed in the same study for each size range. As these data show, on the basis of a comparison of manufacturing costs (at an assumed annual output of 60,000 tractors) with the average dealer price, the gross margin available to cover distribution costs and profit would be negative for the 40 HP model, but would be positive and quite substantial for the 90 and 130 HP tractors.

TABLE 6.3 – SUGGESTED RETAIL PRICES OF TRACTORS  
COMPARED WITH TRACTOR MANUFACTURING COSTS

	Size of Tractor			Weighted Average Tractor
	40 HP	90 HP	130 HP	
Suggested retail price <sup>1</sup>	\$3,656	\$8,640	\$12,103	\$7,491
Dealer net wholesale price <sup>2</sup>	\$2,669	\$6,307	\$ 8,835	\$5,468
Tractor manufacturing costs <sup>3</sup>	\$2,812	\$3,746	\$ 5,061	\$3,688
Gross margin for distribution costs and profits	\$ -143	\$2,561	\$ 3,774	\$1,780

<sup>1</sup> Taken from Royal Commission on Farm Machinery, *Farm Tractor Production Costs: A Study in Economies of Scale, Study No. 2* (Ottawa: Queen's Printer, 1969), Table 44.

<sup>2</sup> Calculated as 73% of Suggested Retail Price.

<sup>3</sup> Canadian dollars (U.S. dollar equivalents in study *op. cit.*, \$2,601, \$3,465, \$4,682 from Table 48 and \$3,412 from Table 49).

Applying the pattern of tractor manufacturing costs at different levels of output to the three horsepower sizes of tractors studied, it is possible to calculate gross margins by size of tractor for each of the three levels of output. Such a comparison reveals the gross margins which are presented in Table 6.4 (see also Figure 6.2).

These data suggest that the small 40 HP tractor is at best a marginal proposition for all North American tractor manufacturers and is probably losing money for those who manufacture it at low volumes. Only at an output level of 90,000 would present price levels yield any margin over these manufacturing costs. With the exception of Allis-Chalmers and Case, all of the North American based firms import tractors in this size range from Western Europe or, as is true of Ford and Massey-Ferguson, assemble tractors from components imported from Western Europe (Ford assembles for the U.S. market only).

In contrast, the gross margin on the larger tractor sizes is quite substantial, varying from 33 to 48 per cent of suggested list price and from \$2,053 to \$4,206 per tractor. This compares with an over-all gross margin for all farm machinery of

TABLE 6.4 – GROSS MARGIN FOR DISTRIBUTION AND OTHER COSTS INCLUDING PROFIT, BY SIZE OF TRACTOR AND LEVEL OF ANNUAL OUTPUT, NORTH AMERICAN TRACTOR MANUFACTURING COSTS

(Canadian dollars)

	Size of Tractor		
	40 HP	90 HP	130 HP
Net wholesale price <sup>1</sup>	\$2,669	\$6,307	\$8,835
20,000 Annual Output			
Mfg. cost <sup>2</sup>	\$3,194	\$4,254	\$5,748
Gross margin <sup>3</sup>	-525	2,053	3,087
Gross margin as percentage of NWP	-19.7%	32.6%	34.9%
60,000 Annual Output			
Mfg. cost <sup>2</sup>	\$2,812	\$3,746	\$5,061
Gross margin <sup>3</sup>	-143	2,561	3,774
Gross margin as percentage of NWP	-5.4%	40.6%	42.7%
90,000 Annual Output			
Mfg. cost <sup>2</sup>	\$2,572	\$3,426	\$4,629
Gross margin <sup>3</sup>	97	2,881	4,206
Gross margin as percentage of NWP	3.6%	45.7%	47.6%

<sup>1</sup> Data taken from Table 6.3.

<sup>2</sup> The manufacturing cost at 20,000 and 90,000 volume for the three tractor sizes were constructed using the ratio of the relative costs for the average tractor at the three volume levels (Table 6.1: 20,000 units = \$3,875; 60,000 units = \$3,412; 90,000 units = \$3,121).

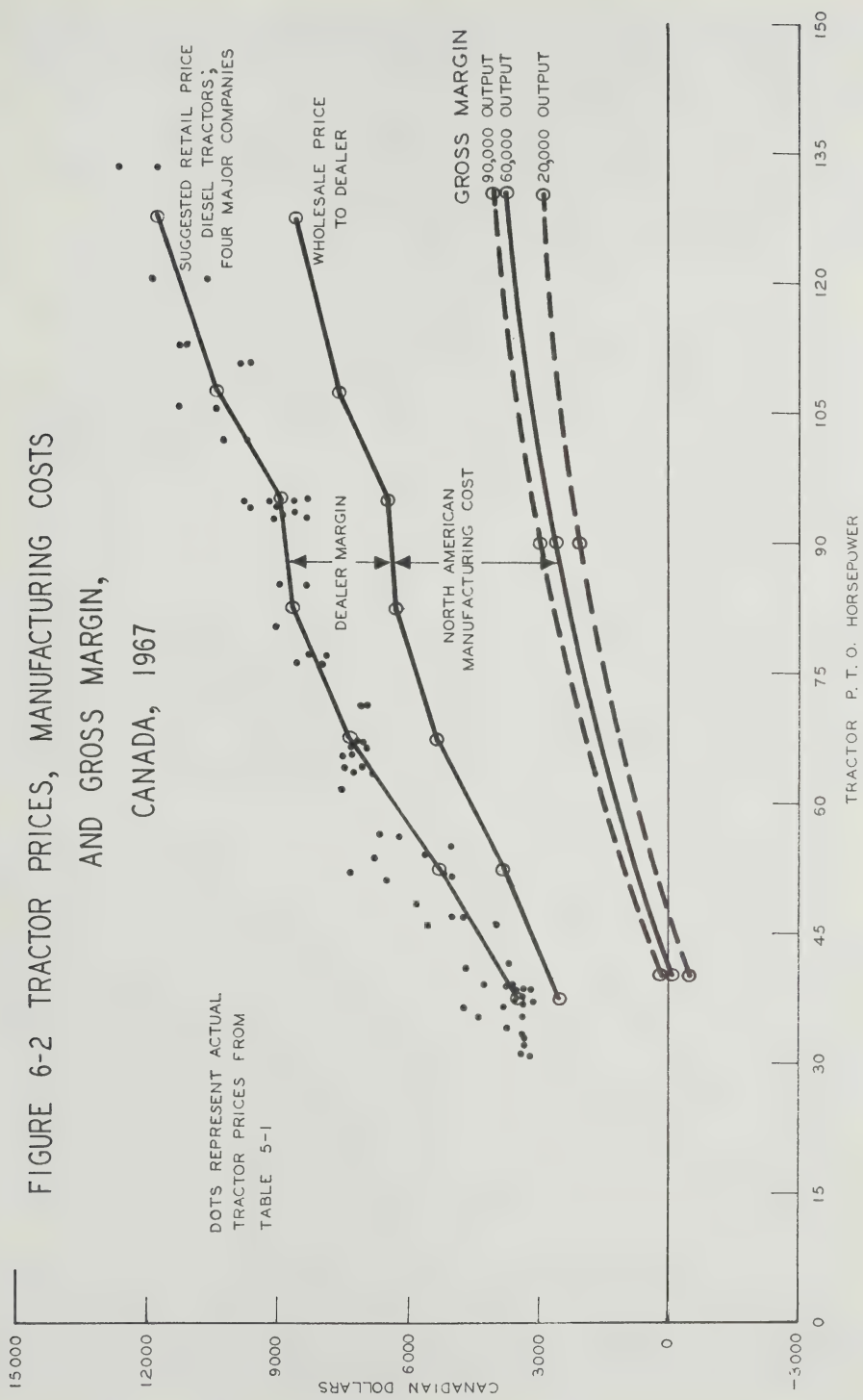
<sup>3</sup> Gross margin equals price to dealer (Net Wholesale Price) less manufacturing cost.

from 19 to 21 per cent. It is significant that these data show that even for the manufacturer who must undergo the relatively higher costs that accompany an annual output volume of 20,000 tractors, the gross margin available on the larger sizes of tractors is significantly larger in percentage terms, 33 and 35 per cent, than the industry average. For the firm with an annual output of 90,000, the gross margin available is very substantial, 46 to 48 per cent. A graphic presentation of these relationships is given in Figure 6.2.

#### Comparison of Manufacturing Costs in North America and Western Europe

By substituting British cost levels for factor inputs, the Commission was able to use the detailed cost analyses developed for the study, *Farm Tractor Production Costs*, to produce a close approximation of tractor manufacturing costs in Britain. This estimate shows that, at an equivalent volume, manufacturing costs are about 25 per cent lower in Britain than they are in the United States at the same 60,000-unit volume level. This amounts to a difference of \$929 on an average mix of tractor sizes, and varies from \$720 on the 40 HP size to \$1,255 on the 130 HP model (see Table 6.5). This cost comparison transfers the plant, set up on paper for the tractor cost study, to Britain. It therefore reflects costs for a new plant in each country using the latest proven technology and assumes that it is possible to achieve





productivity levels in such a plant in Britain comparable to those in the United States. The Commission was told, when visiting Ford's new plant at Basildon, east of London, that productivity levels in that plant were in fact comparable to those obtainable in the United States.

TABLE 6.5 – COMPARISON OF NORTH AMERICAN AND EUROPEAN TRACTOR MANUFACTURING COSTS AT 60,000 ANNUAL OUTPUT, BY SIZE OF TRACTOR, 1968  
(Canadian dollars)

	Cost per Tractor at 60,000 Annual Output			
	Average Mix of Sizes	40 HP	90 HP	130 HP
U.S. cost (1968) <sup>1</sup>	\$3,688	\$2,812	\$3,746	\$5,061
British cost (1967-68) post-devaluation <sup>2</sup>	\$2,759	\$2,092	\$2,805	\$3,806
Difference: Britain below U.S.	\$ 929	\$ 720	\$ 941	\$1,255
Britain as percentage of U.S.	74.8%	74.4%	74.9%	75.2%

<sup>1</sup> Figures taken from Table 6.3

<sup>2</sup> Figures taken from Appendix D, Table D.1, converted to Canadian dollars.

If the cost level given in Table 6.5 for the 40 HP tractor in Britain is compared with the suggested retail price of that size of tractor in Britain during the 1968 selling season, it is clear that current prices in Britain reflect a still lower cost level. Thus the Ford 3000 8-speed diesel tractor, with 39.2 HP, had a suggested list price of \$2,314 during the 1968 selling season. This is only \$222 above the cost level for a 40 HP tractor shown in Table 6.5. Indeed, the cost level is \$195 above the price at which Ford sells this tractor to the dealer in Britain. It is clear that current tractor prices in Britain must reflect a still lower cost level.

Analysis of the data contained in the tractor cost study indicates that an increase in volume from 60,000 to 90,000 tractors a year would reduce the manufacturing cost of the average mix of tractors studied by about \$291 U.S. in the United States and by about \$249 U.S. using the costs of British inputs. Further, the study suggested a saving of \$25 per tractor through the use of modular unit construction, a type of construction which is incorporated in Ford's European production facilities. Finally, we have estimated that an additional saving amounting to around \$150 could be obtained on the higher-volume production, particularly of diesel engines, available to Ford and Massey-Ferguson in England. The sum of these three items amounts to \$424 in U.S. funds or \$459 in Canadian funds. This would reduce the post-devaluation manufacturing cost of the average tractor to \$2,300. A proportionally smaller amount related to the lower costs of the 40 HP tractor would reduce its cost to about \$1,737. At this level, manufacturing costs for the 40 HP machine would be about 75 per cent of list price in Britain.

Independent information that has been made available to the Commission indicates that current manufacturing costs for the larger-volume European manufacturers may be even lower than this, or around \$1,500 for a 40 HP tractor. Such a cost level would give Ford a margin of \$397 to cover its profits, its research and development costs and its wholesale distribution costs in Britain. The

difference between \$1,737 and \$1,500 may come from a number of sources, most probably, as set out in Appendix D, from an overestimate of outside purchase costs in the study *Farm Tractor Production Costs*. When an appropriate amount is deducted from both U.S. and British costs to allow for this overestimation, British costs drop to \$1,514 (Can.) for a 40 HP tractor. At this level, British manufacturing costs are still about 73 per cent of U.S. costs calculated at the same volume and with the same purchase cost adjustment. If the volume adjustments are, however, removed from the U.S. cost structure, British costs at the high-volume levels are only 60 per cent of the U.S. costs at the lower-volume (60,000) levels. Estimated at \$1,514, the production costs for the 40 HP tractor would now be approximately 65 per cent of suggested list price.

There is undoubtedly some further saving due to the fact that British production is concentrated in the lower-horsepower models and none of the very high-horsepower models are produced at all. Finally, the estimate of tractor manufacturing costs presented in Table 6.5 is approximate only and may underestimate the extent to which British manufacturing costs fall below costs in North America.

Again, using the information contained in the study, *Farm Tractor Production Costs*, tractor manufacturing costs were estimated for Britain at three different levels of output. The results are presented in Table 6.6. These data also suggest a cost level about 25 per cent lower than that in North America. Manufacturing costs per tractor are about \$1,025 lower in Britain at an output level of 20,000, about \$929 lower at 60,000, and \$884 lower when annual output is 90,000.<sup>3</sup> This difference between Britain and North America is presented in graphic form in Figures 6.3 and 6.4

TABLE 6.6 – COMPARISON OF NORTH AMERICAN AND EUROPEAN TRACTOR MANUFACTURING COSTS AT ANNUAL OUTPUT LEVELS OF 20,000, 60,000 AND 90,000 AS OF 1967  
(Canadian dollars)

	Cost per Average Tractor		
	20,000	60,000	90,000
U.S. cost (1968) <sup>1</sup>	\$4,189	\$3,688	\$3,374
British cost (1967-68) post-devaluation <sup>2</sup>	\$3,164	\$2,759	\$2,490
British cost as percentage of U.S. cost	75.5%	74.8%	73.8%

<sup>1</sup> Costs are for average mix of tractor sizes and models incorporated in the study, Royal Commission on Farm Machinery, *Farm Tractor Production Costs: A Study in Economics of Scale, Study No. 2* (Ottawa: Queen's Printer, 1969).

<sup>2</sup> The 20,000 and 90,000 volume adjustment costs were taken from the Technical Note to Appendix D, (3) 1.

As these comparisons make clear, the lower tractor price levels currently prevailing in Britain and a number of other European countries reflect, among other things, the lower manufacturing costs that result from two sources. The cost inputs which combine to make up manufacturing costs are very significantly lower in

<sup>3</sup> The smaller difference in costs at the higher volumes is the result of the assumption, in Appendix D, that fixed costs would be the same in the two countries. Since these are a larger component of total costs at higher volumes, their identity in the two countries reduces the difference at higher volumes.

FIGURE 6-3 TRACTOR MANUFACTURING COST, NORTH AMERICA  
AND BRITAIN COMPARED, 1968  
BY SIZE OF TRACTOR

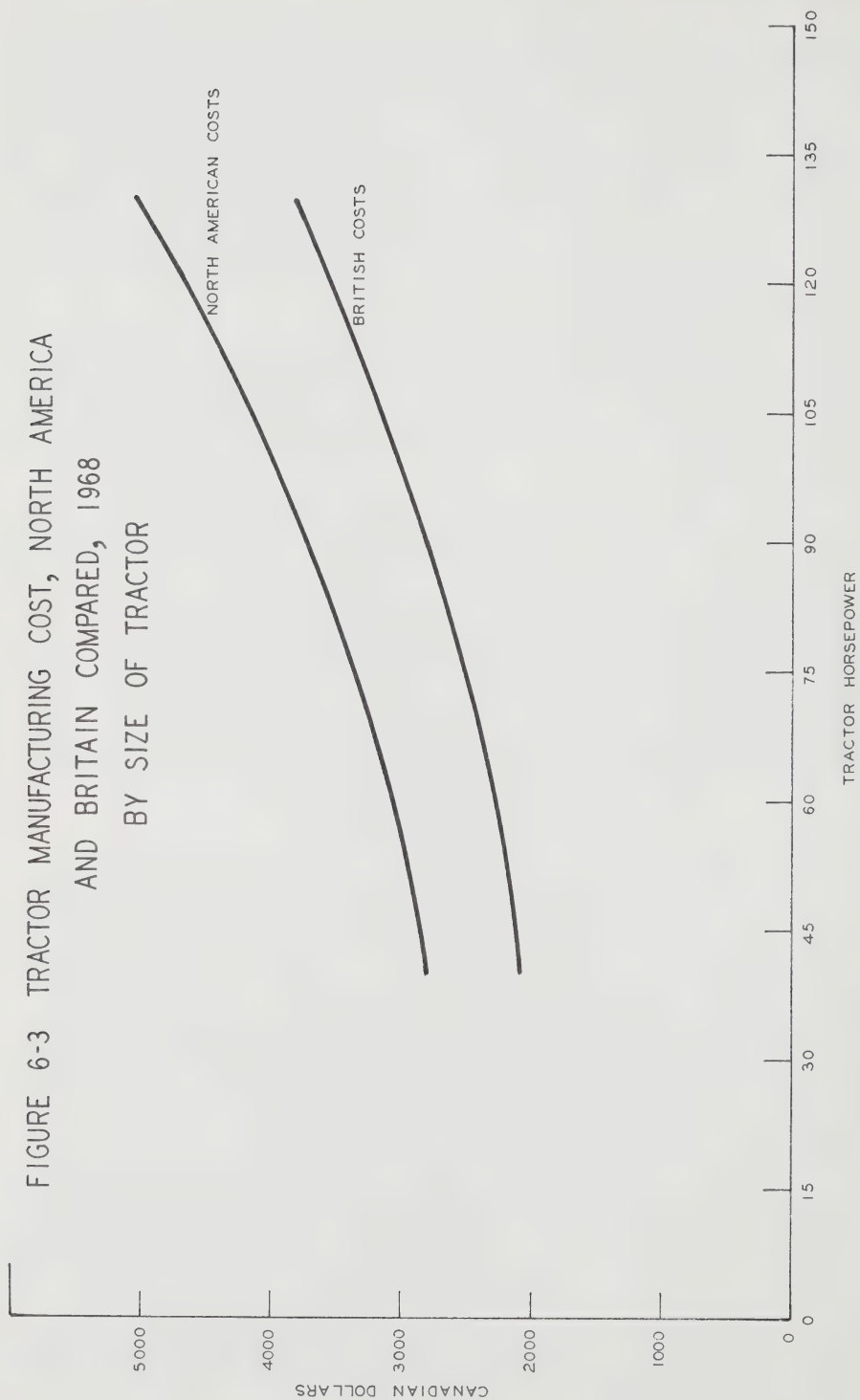
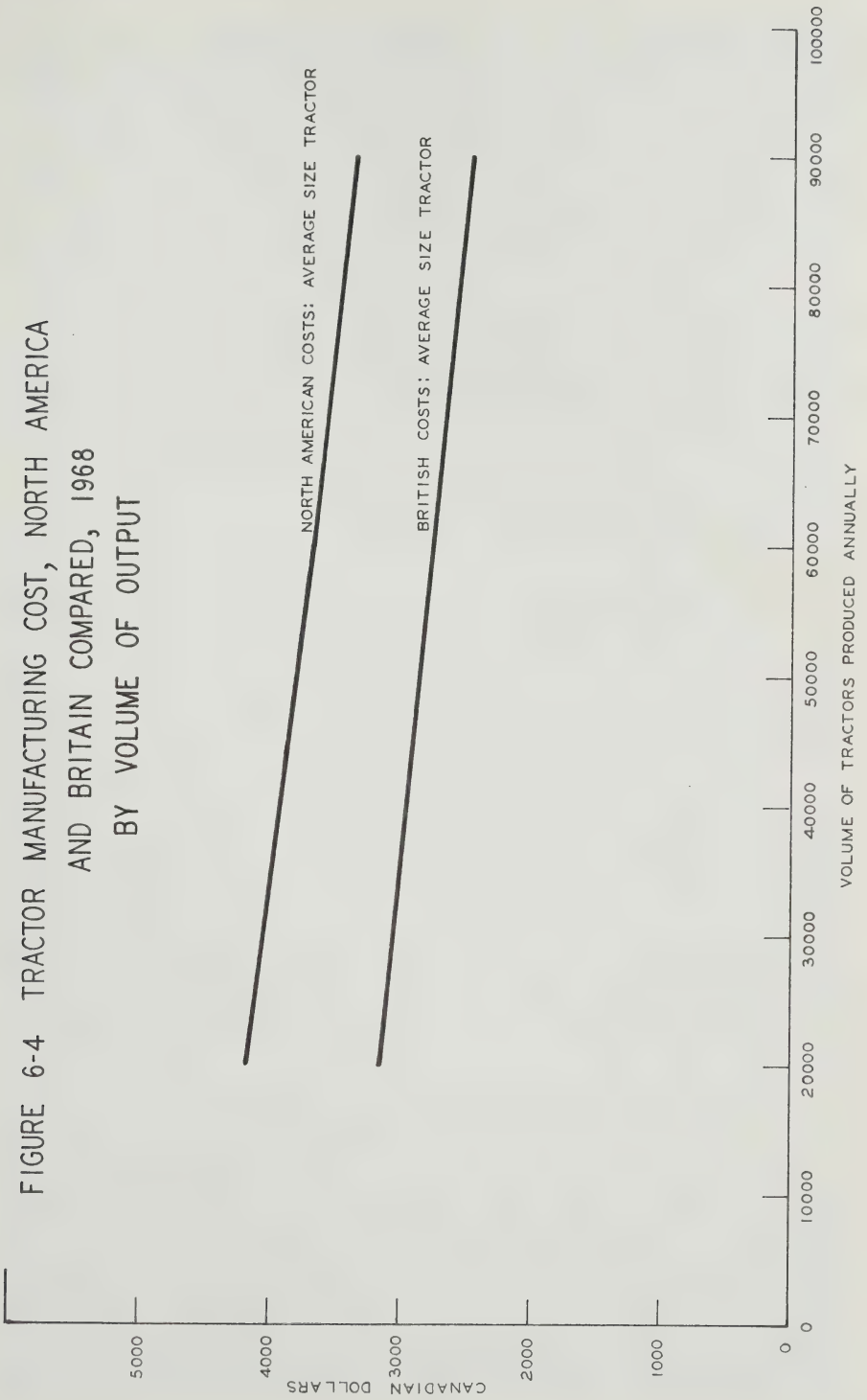




FIGURE 6-4 TRACTOR MANUFACTURING COST, NORTH AMERICA  
AND BRITAIN COMPARED, 1968  
BY VOLUME OF OUTPUT



Western Europe, so that costs are lower at the same volume for the same model than they are in North America. This is clearly shown in Tables 6.5 and 6.6 and in Figures 6.3 and 6.4. In addition, the current tractor price level in Britain appears also to reflect the lower costs that go with larger-volume production. It is the combination of these two factors that provides the initial basis to explain the very much lower tractor price levels that currently prevail in Western Europe. To the extent that profits can also be different in the two locations, a third factor — discussed later in this Report — is also important in its effect on prices.

In contrast, tractor prices in Canada and the United States reflect both the higher manufacturing cost levels of North America and the costs of lower-volume production. As far as the Commission is able to judge, Deere and International Harvester, the two dominant sellers of tractors in the North American market, set a price in that market which is high enough to yield a satisfactory profit, given North American costs. Even though some of the other firms, such as Ford and Massey-Ferguson, have lower cost sources of supply in Western Europe, they have elected to accept that price level rather than bring price levels down closer to European levels. In addition, the evidence suggests that the price level established in North America is high enough to cover the costs of the firms which operate at comparatively small output volumes, say in the range of from 10,000 to 25,000 annual output. As was demonstrated earlier (see Table 6.4), this must surely provide the firms who have output volumes of 60,000 or more with a very high rate of profit on their tractor manufacturing operations. And, as will be demonstrated below, it provides an even higher profit for the firms who are supplying the North American market with tractors produced, or largely produced, in Britain.

This conclusion must be modified to the extent that these profit levels vary for different sizes of tractors. As was demonstrated in the first part of this chapter (see Table 6.4), current North American prices on the 40 HP tractor just barely cover North American manufacturing costs even at an annual output level of 60,000, and manufacturers with output levels below 60,000 are evidently producing at a loss. But on the larger-horsepower tractors the evidence points to a very large profit margin. For the larger tractors the profit margin is substantial even at an output level of 20,000. At an annual output level of 90,000 it is very large indeed.

Because tractor prices in North America are being kept at a much higher level than they are in Britain, Italy, and other countries in Western Europe, the companies have recently had to take steps to prevent farmers from importing tractors directly from these countries. Some of these measures are described in Chapter 7.

#### **Profit Differences for Identical Tractors Sold in Canada and Britain**

When a multi-national corporation such as Ford or Massey-Ferguson sells a tractor to a Canadian dealer, its Canadian subsidiary makes a profit on that transaction. The manufacturing plant located in another country will also make a profit on the manufacture of that same tractor. The way in which that total worldwide or global profit accruing to the multi-national corporation is divided between its Canadian subsidiary and its subsidiaries in other countries will depend very greatly on the price at which the tractor is transferred from the manufacturing plant in one country to the Canadian selling organization. From the standpoint of the global corporation, this transfer price is to some degree arbitrary. The transfer price will not affect the total profit, but it will affect the way it is divided between

different countries. If the different countries tax corporation profits at different rates, the multi-national corporation will have some incentive to realize more of its profit in the country with the lowest tax rate. In theory, the corporate income tax administrations in different countries supervise these transactions so that each country gets its fair share of tax revenue. In fact, given the complexity of international transactions and pricing policies, it is the Commission's view that Canadian and other tax authorities are not adequately equipped or staffed and do not have access to the information available to ensure that these intercorporate transfer prices are equivalent to prices that would be established between completely independent companies.

If a multi-national corporation sells the identical tractor at a higher price in Canada than it does in Britain, the total profit it realizes on that transaction in the two countries may well be higher than the profit it obtains on the tractor sold to the British dealer. Only if the company incurs additional costs equal in amount to the higher price charged in Canada will its profit on the two transactions, the sale of identical tractors to Canadian and British dealers, be the same.

In order to assess the extent to which the higher prices currently being charged to Canadian farmers is yielding the farm machinery companies higher profits, the Commission has estimated the profit earned by three different companies from the sale of one or more of their typical tractors to a Canadian dealer compared with the profit it earned from the sale of the identical tractor to the British dealer. This profit difference was estimated both in terms of the price levels that were in effect before sterling was devalued in 1967 and for the price levels in effect after devaluation. The results of this analysis are presented in Table 6.7. A detailed explanation of the way these estimates were prepared is given in Appendix D. All estimates of profit are on the basis of profit before payment of corporate income tax.

This analysis shows that the profits currently being earned by the Ford, International Harvester and Massey-Ferguson worldwide companies are significantly higher on the tractors they sell to the Canadian farmer than on identical tractors sold to farmers in Britain. Before devaluation, profits were higher on some tractor models and lower on others. For example, as shown in Table 6.7, in 1967 before devaluation, the Ford 5000 8-speed diesel tractor sold in Canada to the dealer for some \$1,357 more than the price charged to the British dealer. This analysis shows that something over half of this difference, \$771, represented higher costs associated with transporting and selling this tractor in Canada. The balance of the price difference, \$586, represented additional profit before tax to the Ford worldwide organization. Ford could have reduced the price of this tractor by almost \$600 and still have made as large a profit as it did on an equivalent sale in the British market. Since devaluation the price and profit difference has become even larger. The dealer price on the Ford 5000 8-speed diesel is now \$1,695 higher in Canada than in Britain and almost \$900 of this represents additional profits to the Ford worldwide organization. On Ford's 3000 8-speed model the price, cost, and profit differences are smaller than those for the 5000. Thus, before devaluation, the company was earning about the same amount of profit on a tractor sold in each of the two markets. After devaluation, in the 1968 selling season, its estimated profit on this model was about \$400 higher in Canada. In other words, Ford could reduce its price to the dealer on its 5000 model by about \$900 and on its 3000 model by about \$400 and still earn as much profit as it currently earns on

TABLE 6.7 – SUMMARY OF PRICE, COST AND PROFIT DIFFERENCES,  
VARIOUS DIESEL TRACTORS SOLD IN CANADA AND BRITAIN, 1967 AND 1968 SELLING SEASONS  
(Figures in parentheses indicate a higher price, cost or profit in Canada,  
i.e., a cost disadvantage to the Canadian farmer)  
(Canadian dollars)

	1967 Pre-devaluation				1968 Post-devaluation			
	Net Wholesale Price	Total Costs	Corporate Profit Before Tax		Net Wholesale Price	Total Costs	Corporate Profit Before Tax	
	\$	\$	\$	\$	\$	\$	\$	\$
Ford 3000 8-speed	(491)	(491)	—	(923)	(923)	(524)	(399)	(399)
Ford 5000 8-speed	(1,357)	(771)	(586)	(1,695)	(1,695)	(799)	(896)	(896)
International Harvester 434	(345)	(473)	128	(675)	(675)	(486)	(189)	(189)
Massey-Ferguson:								
Final assembly in Detroit for tractors sold in Canada								
Massey-Ferguson 135	(558)	(803)	245	(912)	(912)	(874)	(38)	(38)
Massey-Ferguson 165	(1,036)	(971)	(65)	(1,203)	(1,203)	(1,026)	(177)	(177)
Final assembly in Britain for tractors sold in Canada								
Massey-Ferguson 135	(558)	(485)	(73)	(912)	(912)	(506)	(406)	(406)
Massey-Ferguson 165	(1,036)	(667)	(369)	(1,203)	(1,203)	(672)	(531)	(531)

Source: Tables D.10 and D.11.



an equivalent sale in Britain. All this is after allowing an additional cost of about \$800 on the 5000 model and over \$500 on the 3000 model to cover ocean transportation and higher selling costs in the Canadian market. According to the Commission's estimate, the total profit (before corporate income tax) earned by the Ford worldwide company on the sale of a Ford 5000 tractor in Canada is now almost \$1,200. For the Ford 3000 tractor it is about \$440.

For International Harvester an analysis was made of the model 434 tractor they import from their plant in Doncaster, England. In terms of the selling prices in effect during the 1967 selling season, prior to sterling devaluation, the net wholesale price to the dealer was about \$345 higher in Canada than in Britain. The cost of ocean transportation and additional selling and administrative expenses in Canada appear to have more than accounted for this difference with the result that, at that time, the company's profit on the sale of this tractor in Canada was about \$128 less than its profit on the sale of an identical tractor in Britain. In 1968, after devaluation, the difference in the price to the dealer between Canada and Britain had widened to \$675. As a result, the company was making about \$189 additional profit in Canada. The Commission's estimates indicate that as of 1968 International Harvester was making a profit before tax of about \$200 on the sale of a model 434 tractor to a Canadian farmer, compared with about \$10 profit for a similar sale in the British market.

For Massey-Ferguson, any comparison of the profits they make in Britain with profits made in Canada on the sale of the same tractor models is complicated by the fact that tractors for the Canadian market are assembled in their factory in Detroit, from components largely imported from England and France. There is reason to believe that the total cost to the company of the Detroit models is higher than for those assembled in Britain. For this reason Table 6.7 provides a cost and profit comparison on the alternative assumptions that the Canadian market is supplied from Detroit or Britain. This comparison shows that before devaluation Massey-Ferguson was making a smaller profit on their MF 135 tractor when sold in the Canadian market than they made on the sale of the same model in the British market. On the MF 165 they were making a marginally higher profit in Canada. Had they imported these two models directly from Britain, their Canadian sales would have yielded higher profits on both models. The Commission estimates this additional profit at \$73 on the MF 135 and \$369 on the MF 165. Since devaluation, with the 1968 selling season the difference in dealer prices and profits between Canada and Britain has widened. For 1968, dealer prices of the two models were \$912 and \$1,203 higher in Canada than in Britain and the additional profit on the Canadian sale of tractors imported directly from Britain had increased to \$406 on the MF 135 and \$531 on the MF 165. The estimated additional profit actually made on these models imported from Detroit was \$38 and \$177. Thus, without changing its source of supply for the Canadian market, the margin for price reduction, while still maintaining the same profit margin obtained in Britain, was much smaller than was true for Ford. On the other hand, unlike Massey-Ferguson, Ford has chosen to supply the Canadian market from its factory in Britain rather than from Detroit and has described the former as "the most economical sourcing pattern".

In concluding this discussion of costs and profits it is desirable to attempt to assess the implications of these data for the future price of tractors to the Canadian farmer. At the moment, manufacturers in Western Europe do not produce any

significant volume of the much larger horsepower tractors that are now so widely sold in Canada and the United States. However, there would appear to be no reason why European manufacturers should not enter that market also. Indeed, there has been a steady movement towards larger horsepower tractors in Britain. And some comparatively large tractors are now being produced in Sweden, West Germany, and Czechoslovakia.

There would appear to be no reason why the Canadian farmer should not receive the benefit of both the lower manufacturing costs that prevail in Western Europe and the reduction in tractor manufacturing costs that comes with larger volume. This will require a very substantial reduction in tractor prices in Canada. Some measures which the government might take to bring this result about are set forth in the final chapter of this Report.

## Chapter 7

### SEPARATION OF MARKETS

#### How Markets are Separated

Normally, large price differences for equivalent or identical products between two or more geographical markets result in a tendency for the products to move in secondary trade channels from the lower-priced to the higher-priced area.<sup>1</sup>

Such movement is limited by certain natural barriers and by barriers erected by governments or private institutions. Natural barriers include the costs of transporting the products from the lower-priced to the higher-priced market, the cultural barriers of preference for one product against similar products from another country, and the sheer difficulty of dealing with different languages, currencies and ways of doing business. Barriers to trade can be deliberately established by governments of importing countries in the form of tariffs, import quotas and licences, and currency restrictions, and by exporting countries through special export taxes, export licences and even by prohibiting the export of certain classes of goods to certain areas. Private industry can create barriers in a number of ways, such as using cartels to share markets in certain regions or by restrictive franchise agreements. The multinational corporation itself, in determining its optimum marketing posture in various countries, may establish its own barriers to the movement of its goods outside its own channels of trade. All these barriers – natural and artificial – act to form a dike to keep the lower-priced product from entering the higher-priced market.

Nevertheless, if the extra charges imposed by these barriers do not exceed the price difference between equivalent or identical products in different markets, theory suggests that “arbitrage” (using its colloquial, rather than formal meaning) should ensue – that someone would find it profitable or advantageous to buy in the lower-priced market and sell in the higher-priced market.

Given the tractor price differences between Canada and Britain, why do tractors not move more freely at the consumer level between the two markets? No deliberate barriers to this trade have been established by the Canadian Government in the form of tariffs or other import controls. Why had the movement of tractors from Britain to Canada not developed (except under the auspices and controlled prices of the farm machinery companies themselves) prior to the decision of the Ontario Federation of Agriculture to assist farmers to import tractors directly, outside the companies’ normal channels?

The two possible types of barriers other than governmental action will be examined in the light of the evidence that the Commission has been able to collect:

---

<sup>1</sup> This is similar to “arbitrage”, defined by the Random House Dictionary of the English Language as “the simultaneous purchase and sale of the same... commodities... in different markets to profit from unequal prices”. For simplicity, it will hereafter be referred to as arbitrage.



(1) *Natural barriers:*

The highest ocean transportation costs reported by any company at the Commission's public hearings were \$171.<sup>2</sup> Even if a company's costs were doubled for a private individual, it would absorb only a small part of the differences in prices identified in Chapter 4 between the Canadian and British markets. Some other "natural" problems are posed for the farmer-purchaser of a tractor or other farm machine in Britain. These would include the distance and time to be taken to go to the lower-priced market or the cost of hiring an agent to do this for him; the problems related to purchasing the tractor in another currency, with the related problems of financing the purchase; the complex arrangements needed to arrange shipment of the machine by sea and by land, again capable of solution through an agent; the nagging question as to whether the machine can be serviced with parts obtainable when he gets it home (and whether the local dealer of that brand will be as enthusiastic about helping him out in an emergency as he would if the machine had been locally purchased and he had earned his "dealer's commission"); and finally, but not least, how to dispose of the used machine, which is normally traded in on the new machine through the local dealer.

(2) *Company barriers:*

In addition to the "natural" problems of doing business across the Atlantic, other difficulties might be imposed. Farm machinery companies that were determined to separate or insulate a high-priced North American market from the low-priced British market could include terms in contracts with dealers and retail customers in Britain which prohibited the export of the tractor (or other farm machine) in new condition. To make such constraints effective would require some degree of enforcement by the companies. In turn, some method would be required to determine that something had happened to breach the contractual regulation of the company concerned.

Evidence available to the Commission relating to the export of tractors from Britain to Canada supports the validity of both hypotheses — of the existence of natural barriers, and restraints deliberately constructed by the companies concerned.

In the first case, the transactions involved in international purchases one at a time by individuals appear inhibiting in their complexity to farmers. Until the Ontario Federation of Agriculture, in 1968, established a procedure by which it undertook to arrange for the purchase of tractors in Britain and their shipment to Canada, the problem was apparently too complex to be tackled by the individual farmer. Certainly no evidence was given at the Commission's hearings of any such movement arranged by individual farmers. The procedures developed gradually by the Federation, as outlined below, indicate that most of the natural barriers posed significant problems. One possible barrier, however, that of acceptance of the product, does not exist, since the tractors sold in Britain are physically the same as those currently sold in Canada, but imported by the Canadian companies from their associated companies in Britain.

---

<sup>2</sup> The figure was taken from the testimony given by Mr. R.C. Cudmore, General Manager, Ford Motor Company of Canada, *Hearings, Royal Commission on Farm Machinery*, Vol. XXXI (1967), p. 3302.



Some evidence of other natural barriers came to light during the Commission's public hearings. Various farm machinery companies importing tractors to this country were asked why, in their opinion, more direct importation was not taking place. Their responses included the statement that the Canadian farmer wanted a different grille on the tractor made by Fiat and sold by Cockshutt in Canada, instead of "an Italian-looking kind of grille on the tractor.... They want our Canadian type of appearance on a tractor. They are very specific about this".<sup>3</sup> Comments were also made about the difficulty of purchasing a Fiat tractor in Italy at the list price. A Cockshutt representative stated "[The farmer] probably wouldn't get it for \$2,700 [the Italian list price converted to Canadian dollars]. He would have to have more than \$2,700 with him converted to lira and would actually pay more... because the dealer who sells these tractors has a small margin and he tries to get every lira that he can...."<sup>4</sup>

Later the question of repair parts came up: "... finally, I am quite sure [the farmer's] reaction would be quite tempered about the time he needed some spare parts".<sup>5</sup> Even though the working parts of the tractor were identical with the Fiat tractor imported and sold by Cockshutt Farm Equipment of Canada, Limited, the comment of the company representative was, "He [the farmer] couldn't always depend on us having them.... It is not quite as dreamy as it sounds."<sup>6</sup>

A representative of Ford Motor Company of Canada, Limited, in discussing the direct importation of a Ford tractor by a farmer, felt that the "individual farmer would not dare to import a tractor unless he was supported by our marketing organization in this country".<sup>7</sup>

It seems reasonably self-evident that the natural barriers of the Atlantic Ocean alone would normally keep the Canadian farmer from becoming involved in purchase transactions on an individual basis.

Some more specific evidence was secured by the Commission in support of the second possibility, that the multi-national companies manufacturing tractors in Britain strongly reinforce these natural barriers. Possible "arbitrage" sales of tractors to the Canadian and other higher-priced markets are prevented through restrictive policies in contracts with their own dealers and retail customers in Britain.

All major British tractor manufacturers (British Leyland Motors (Nuffield), David Brown, Ford, International Harvester, and Massey-Ferguson) have clauses in their dealer agreements to prevent dealers from directly exporting new tractors or selling them to someone who will export them.

<sup>3</sup> The quotation was taken from the testimony given by Mr. G. Wormley, Vice-President, White Motor Corporation, *Hearings, Royal Commission on Farm Machinery*, Vol. XXIX (1967), p. 2927.

<sup>4</sup> *Ibid.*, p. 2934.

<sup>5</sup> *Ibid.*, p. 2936.

<sup>6</sup> *Ibid.*

<sup>7</sup> The quotation was taken from the testimony given by Mr. A.L. McKenzie, Marketing Manager, Ford Motor Company of Canada, *Hearings, Royal Commission on Farm Machinery*, Vol. XXXI (1967), p. 3323.

The first example is from the distributor agreement currently being introduced by British Leyland Motor Corporation's tractor manufacturing and marketing division, Leyland Motors (Scotland) Limited, which reads as follows:

The distributor shall not sell tractors or parts for export from the United Kingdom nor shall he sell any used or second hand B.M.C. tractors for export from the United Kingdom within twelve months of the first date of sale of such tractor by a distributor or dealer. The distributor shall ensure that every contract to which he is a party for the sale of any B.M.C. tractor or parts contains a similar undertaking by the buyer under such contract not to sell or otherwise dispose of such tractors or parts for export from the United Kingdom within twelve months of the date of such contract aforesaid.

British Leyland Motors Canada Limited noted that the following wording was also being added:

Provided that if in the opinion of the company it has reason to believe that the distributor has failed to comply with Chapter 1, Section B, Paragraph 15 of these terms of business then without prejudice to the provisions for termination of this agreement the company reserves the right at any time to reduce the said [wholesale] discount of 20% by such amount as it shall specify in respect of any number of tractors to be supplied to the distributor thereafter as the company shall deem fit.

The second clause quoted is from the David Brown dealer agreement:

*Export Prohibited*

16. In the event of a Distributor re-selling any of the agricultural products or parts thereof new or unused for export or to any person in the United Kingdom or Northern Ireland who to his knowledge exports such products without having previously obtained the Company's approval the Distributor will repay the Company all discounts paid by the Company in connection therewith and in addition the sum of £100 as and by the way of liquidated damages for every such breach. *In the event of a purchaser selling the agricultural products for export the Distributor undertakes that he will not supply the purchaser with any further of the agricultural products.* (Italics added)

The third extract is from the agreement used by Ford Motor Company Limited.<sup>8</sup>

The Dealer will not export any Ford Products from the Area without the consent of the Manufacturer in writing and will take all reasonable precautions not to sell, offer for sale or otherwise distribute Ford Products to any person, firm, company or body, who or which may intend to export such Ford Products from the Area.

---

<sup>8</sup>Ford Motor Company Limited is the wholly-owned subsidiary in Britain of Ford Motor Company.

The fourth example is taken from the Sales and Service Agreement between International Harvester Company of Great Britain and its dealers.

The Dealer shall not export, nor sell for the purpose of export out of the United Kingdom any goods covered by this Agreement without the written permission of the Company.

The fifth restrictive clause is contained in the dealer agreement of Massey-Ferguson Limited:

The dealer shall not without the prior written consent of the company

1) sell any of the products or any spare parts (whether new or shop soiled) except to retail customers in the United Kingdom, or

2) sell outside or for export from or use outside the United Kingdom any of the products or spare parts (whether new, secondhand, used or shop soiled).

This restriction is reinforced at the retail level in the case of some companies by a clause in the retail purchase order, expressing the same intent. The following quotation is from Retail Order for New Ford Agricultural or Industrial Tractor, of Ford Motor Company Limited:<sup>9</sup>

7. The Retail Customer undertakes that he is ordering the tractor for his own use and that he will not re-sell it as a new Tractor in the course of any business carried on by him. *The Retail Customer further undertakes that he will not export the Tractor from the United Kingdom for a period of 12 months from the date of delivery to him.* (Italics added)

On January 20, 1969, Ford Motor Company of Canada Limited confirmed to the Commission that this form was current in Britain. The sentence of the clause in italics indicates a strong impediment to the export of tractors by British farmers to their Canadian counterparts.

One further insight into the matter of separation of markets came to light, if not accidentally, certainly fortuitously. A copy of a letter from a Canadian dealer to the Canadian sales staff of the farm machinery company which he represented was sent to the Commission. This letter alleged that farm tractors of this particular brand name were being imported directly from Britain into the dealer's territory, or immediately adjacent territory, by independent dealers at prices up to 38 per cent below Canadian dealer prices. The Canadian dealer complained that he could not be expected to compete under the circumstances.

The dealer territory concerned was adjacent to the United States border. After some investigation by the Commission (which carefully did not involve the complaining Canadian dealer) it was determined that British tractors were being imported by a dealer representing the same brand of tractors in an

<sup>9</sup>See Footnote 8.

adjacent area of the United States. One had been sold in the Canadian dealer's territory.

The U.S. dealer claimed to have been importing tractors of his franchise brand name directly from Britain for some years. He knew his company was unhappy about his actions, but had so far done nothing but object. He purchased both new and slightly used tractors through British brokers, but noted that the supply of new machines appeared to be drying up. Representatives of the company whose franchise he held came to his premises from time to time and took down serial numbers of the tractors he had imported. He understood they went back to the British dealer to object to the impediment to the export of tractors by British farmers to their movement of the tractor from Britain.

The Commission asked the U.S. dealer whether he had experienced serious problems in connection with repair parts (which might be different in the "domestic" British model than in the "export" model he would normally handle). He explained that the difficulties were minor. Any parts were carried by a nearby distributor of the unique name-brand parts on the "domestic" model, such as the starter and generator. He also pointed out the significant difference in cost to him when he could obtain a tractor this way.

	Through Company Channels in	
	<u>United States</u>	<u>From Britain</u>
Price paid to British dealer		\$3,000
British broker's premium		100
Ocean freight		200
Total		<u>\$3,300</u>
North American dealer price	\$3,940	

The difference, \$640, equalled a saving of 16.2 per cent of the North American dealer price.

While it was not possible for the Commission directly to discuss with British officials the question of the legal implications of the restraints imposed by the companies on dealers and customers, some unofficial information became available through informal channels.

All trade documents in Britain incorporating such restrictive clauses are, it is understood, scrutinized by the Board of Trade of the British Government. Thus the existence of the procedure referred to has, if not official backing, at least official cognizance. It must also be accepted, however, that all national authorities must, by definition, be concerned first with the effect of company policies on their own nationals and national economies, and only secondarily with their effect on other countries. Restrictive policies which would be unacceptable to government domestically are often encouraged in international trade.

It is understood that the clause restricting tractor exports from Britain was defended by the representatives of the industry to British authorities as a necessary restraint of trade to prevent anyone but their agents selling second-hand tractors outside the country. This was done on the basis of preventing the "possible damage to the reputations of British firms" that might occur if poorly overhauled machines were exported.



The wide difference in farm machinery prices between Canada and Britain suggests that impediments to the natural flow of trade exist. Two hypotheses, involving possible natural and company-made barriers, were postulated. The Commission has concluded that, although natural barriers exist, they would have been breached long ago by a form of arbitrage, if it had not been for the techniques used by the farm machinery companies to separate the markets artificially. The effectiveness of these artificial barriers and the companies' attitudes to them is examined in the following sections.

### Market Separation — the British Dealers' Viewpoint

In order to understand the impact of the various restrictive clauses on exports of tractors from England, the Commission corresponded with a number of large tractor dealers in England. Some were independent dealers, others were franchised representatives of particular tractor brands. The names of dealers involved are not identified in order to protect them in their business relationships with their supplying companies.

Dealer A, dealing in farm products other than farm machinery, wrote to a Canadian farmer who had enquired about obtaining a new tractor in Britain:

I am sending you the official Ford price list as requested and have marked the prices which seem to meet your requirements.

However none of the Distributors or Dealers in this area are prepared to supply even one tractor to us on your behalf, and the reason is clearly marked on the yellow form, (section 10),<sup>10</sup> which is a form issued by the manufacturers and which we are asked to sign by the dealer before delivery of the machine is made. I think that the same conditions would apply to you if you came over here hoping to buy the tractors yourself. The dealers are afraid of having their dealership agreement with Fords cancelled.

I would also say that these conditions also apply to other makes, International, David Brown, and Massey-Ferguson, this latter make seems to be the most popular round here at the moment....

The only way to overcome these regulations seems to be that if the tractors are bought and stored for one year and one day, then they can be exported to you, even then they must be registered and Road fund tax paid and have been used for at least a few hours, also of course an Insurance policy must be taken out.

One other possibility is that some dealer may be able to get hold of some genuine secondhand machines which would obviously have to be more than one year old, and probably have done 800 to 1000 hours.

Dealer B, a firm specializing in the export of used tractors replied to the Commission:

We are aware that franchise agreements between the major tractor manufacturers and their respective distributors and

---

<sup>10</sup> An earlier edition of the Ford Motor Company Limited's Retail Order for New Ford Agricultural or Industrial Tractor contained what is currently clause 7 as clause 10.

dealers expressly forbids the supply of either new tractors or tractors less than one year old, knowing them to be for export. Dealers acting contrary to the provisions of their franchise agreements run the risk of financial penalties and/or loss of franchise, and to our knowledge these penalties have in fact been imposed . . . .

This is essentially an opportunist trade, and clearly can only apply on a limited scale outside the more normal channels; i.e. manufacturer's direct export of new goods.

Dealer C, largely dealing in new machines responded to a Commission letter:

Firstly we would like to make it very clear we would very much like to do business . . . in Canada, but as you mention in your last but one paragraph, this is a very 'sensitive' area.

It is because of the price differential between new Tractors in Britain and various other parts of the world that there is this call for Dealers in the U.K. to supply, but as you will appreciate [Brand Name] and other Manufacturers have to protect their Dealers in various parts of the world and they therefore take steps to prevent their Dealers from exporting tractors.

Whilst we would like to supply you there is a clause written into our agreement which prevents us from doing so, and you are quite correct in stating that the retail customer undertakes that he will not sell a new tractor abroad for a period of twelve months, as mentioned . . . in your letter. We would assure you this point is very closely watched, and if we sold new Tractors to Canada within twelve months of their date of delivery to our customer we would be bringing upon ourselves abortive damages, and you will readily appreciate that as we are probably the largest [Brand Name] Dealers in the U.K. we cannot afford to do this.

Dealer D, dealing in export of used, reconditioned machines answered Commission letters:

We know dealers that come over to England from America, trying to buy tractors, new ones that is, rather than buy the ones of American manufacture, in their own country. The whole matter rests on the carriage charges.

This brings us to your point "10".<sup>11</sup> Are the restrictive measures covering the re-sale of a tractor really effective. The reason that this condition is made here in England in the first place, is to prevent Canadians, Americans etc. coming over to England and buying up new tractors, for re-sale in their own country. The genuine Agent in the respective countries, who have the sole, exclusive territory franchise, and who has most probably spent a lot of money building up his Agency and After Sales Service, stands to lose a lot of money in loss of commission. He would – in other words – be by-passed completely. This is a very sore point in England at the moment.

---

<sup>11</sup>See Footnote 10.

For this reason the regulation was laid down, that a tractor must be at least 12 months old before it can be exported. The reason for this is obvious. For precisely this reason, the writer will not under any circumstances deal in new tractors for export. It is a rule made by the manufacturers to protect their Agents abroad. Should a manufacturer discover what we call "pirate shipments" of new tractors, if the manufacturer can prove it, he is in a position to reclaim DOUBLE the commission granted on the tractor, payable by the English Agent through whose hands the tractor passed. This ruling applies to all tractor manufacturers of standing, e.g. Fords, Fergusons, David Brown, Nuffield, International etc. etc. The manufacturer can quite easily get his money back, but even this sort of "fine" does not stamp out the "pirate shipments" altogether. There are some people who would sell their soul for money, and a lot of distributors do take the chance and send new tractors abroad . . . .

If a U.K. tractor is found overseas, and it was illegally exported, it would not matter if it were North America, South America, Canada, France, anywhere in fact, the same penalties apply. This is done to protect the dealer in that country where the tractor is found. Action would be taken against the dealer in England. Agreed, the retail order between the farmer and the dealer is more or less a "gentleman's agreement", but don't forget that the English Farmer is fully dependent on the English dealer, and thank goodness not many, in fact a very small percentage only would even dream of buying a tractor for sending it out of the country. Some do it for relations or friends, but most of the English Farmers if they were asked to do something like this would say 'no'. The farmer that does try it, does so only once, I can tell you that quite straight, he would have difficulties in getting another one. The dealer would not want to have any more dealings with him, nobody would supply him. So he would have to do it through the back door. We English people don't like backdoor work. Another thing, the English Farmer is too dependent on the dealer for service, and if he plays clever tricks like that, he does not get any sympathy, and finishes up with no friends and no service. One other thing that you have forgotten is that if a dealer lets a farmer have a tractor, and it goes overseas, and it is discovered, and it usually is, then the poor dealer is really up against it, and he has to prove that he had sold the tractor in good faith, and here is the rub: if the farmer goes to any other dealer for the tractor, he is still a marked man, and the dealers are very careful because of the serious implications involved, and should the dealer be foolish enough to let this farmer have another tractor and this is found abroad, then no excuse whatsoever is accepted . . . .

Frankly, I do not see that there is any way in overcoming the difficulty which you have evidenced as irrespective of the legality which you mention, there is nothing to stop the manufacturer "black-listing" any dealer who breaks the clauses of the purchase contract and thereafter decline to supply him with further tractors. As a point of interest, however, I am taking legal advice upon this matter, but I do not think for one moment that this affects the issue. We have heard rumours – so

far not confirmed – that the dealer from whom the Ontario Federation of Agriculture purchased tractors in the U.K. has been deprived of further supplies. If this is the case, then you can well appreciate that there are very few organizations in a position to put themselves at risk by conducting such an operation . . . .

Regarding the legal side of the position, the Government frowns very much on this “jiggery-pokery” and the underhand selling of new tractors overseas. The Companies do not take legal action against the dealer, and that is because if it is proved that the dealer exported the tractor knowingly, the manufacturers under their agreement can legally impose the following, the dealer loses his full discount from the manufacturer. Now they are taking double the commission, so the dealer can lose heavily . . . .

We thought that we would write to let you know that the “balloon has gone up!” in England with regard to the new tractors which are and have been exported . . . . Now that all this has come to light, there will be serious repercussions, as Fords have now got the Serial Numbers of the tractors that have been exported, and the matter has also been reported to the British Board of Trade. It is thought that one or two of the big main dealers will lose their franchise over this. Several very small dealers, who normally sell one tractor a month, have suddenly been taking 6 or more tractors. Any firm with any common sense would have realised that these tractors were not being sold to local farmers.

Anyway, it looks now as if the O.F.A. will not now get any more tractors, as a stop will be put to all this from now on. It had to come of course, and somebody will have to pay the price for it. Thank God we have not been involved, and we have no intention of ever becoming involved in such things.

. . . . no doubt there are both farmers and dealers who will export new tractors. One does not hear very much of what really happens when somebody is caught. However, we sent [number] tractors to America which were *just* over 12 months old – the new [model] range, and there was a “hell of a to-do”. The [maker] boys came down to our yard, they went to the Agents where we bought the tractors, but we were over the 12 month period and there was nothing that they could do about it, as we were within our rights. As long as the tractor has been out of the factory for over 12 months, there is nothing to stop it being exported, and the dealer can do nothing about it. But as I said, one does not know exactly what does happen if it is found out that the tractors were in fact under the 12 months. Firms have told me that they have had to pay back the money.

Regarding your [request for names of affected dealers], you are asking me something that I cannot give you. I could give you the names of several firms who have had a “how-do-you-do” with both Fordsons and Fergusons, and I know that the main dealers get letters practically every week from the manufacturers warning them not to sell, and they even go as far as to give the names of dealers not to sell tractors to. I have not been black-listed and I have no intention of this ever happening to me.



Admittedly, these quotations from four dealers contacted by the Commission from advertisements in British farm machinery journals can scarcely be considered definitive evidence of anything, except the consistent undercurrent of fear of exposure to some overriding power of the manufacturers. When every dealer contacted refers back to the effectiveness of the same frame of restrictive practices, it may be assumed that they in fact exist, and perform as they appear intended to.

The letters from the different dealers argue consistently that it is the dealer in Canada (or North America) who is being protected by the companies from the unfair competition of direct imports. The letter from an unidentified farm machinery company to the Commission, quoted as Appendix E, also makes this point strongly. The data in Table 6.7 indicate that the companies' profits, however, are also being maximized by this procedure. The Commission therefore assumes that it is in the companies' own interest to protect the high-priced North American market from low-cost direct exports.

### **Market Separation — the Viewpoint from Canada**

How effective does separation of markets appear from the viewpoint of someone importing a tractor from Britain? How seriously do farm machinery companies attempt to enforce their barriers to the movement of farm machinery from Britain to Canada? New farm machinery had not moved to Canada from Britain in any significant volume in secondary channels of trade up to the time the import operations of the Ontario Federation of Agriculture were undertaken. The Federation's recent experience in the last six to nine months is, therefore, relevant, although limited. It is set out in the form of statements, letters, and affidavits in Appendix F.

By mid-April 1969, the Ontario Federation of Agriculture and some of its county associations, notably Grey and Bruce, had imported about 150 British-made tractors or had them in ships en route to Canada. The order form of the Federation is reproduced as Exhibit 7 of Appendix F. The tractors had been purchased through farmer-agents in Britain who had contracted with individual farmers to buy them from dealers. The British dealer himself could state that he was selling in good faith only to a British farmer. The first British farmer (who, for a Ford tractor, would have had to sign the Ford Retail Purchase Order containing the restrictive clause quoted in the first section of this chapter) would be able to claim that he did not sell the machine "as a new tractor in the course of any business carried on by him".

He had not, himself, exported the tractor from Britain within the prohibited "period of 12 months from the date of [its] delivery to him". The prohibited act was performed by the second farmer-agent, screened from the dealer, and acting with at least nominal independence from the original retail farmer-customer in Britain.

In fact, according to the Ontario Federation of Agriculture,<sup>12</sup> the first groups of tractors were bought in Britain relatively easily. Later orders had

<sup>12</sup> See statement by David Crone, Director of Marketing and Research, Ontario Federation of Agriculture, shown as Exhibit 1 of Appendix F.

become more difficult to place, however; agents had stated that they had ordered 12, but only two or three turned up. The original farmer-agent of the OFA reported that heavy pressures had been placed on the British dealer who had sold him the original tractors exported.<sup>13</sup> The use of tractor serial numbers, obtained either in transit or in Canada, to trace the source of the leak of tractors for export is also noted in this letter.

Two cables to the Ontario Federation of Agriculture<sup>14</sup> from one of their British agents indicate that the companies had become suspicious of any tractor with a non-standard specification, such as tire size.

A group of 10 machines was ordered from one dealer of one company by a Scottish representative acting on behalf of Mr. K. Graham, a fieldman for the Ontario Federation of Agriculture. They appear to have been screened out of the order stream at the company's factory as not being typical of what farmers in this area ordered for their own use (broad tires, power steering, and remote cylinder control). A representative from the factory came to the dealer, examined his records, and challenged the assertion that the tractors were for local use. In the end, the company simply refused to accept the orders, and the tractors were not made available.<sup>15</sup>

Later, an attempt was made by Mr. Graham to purchase six tractors of the same make from another dealer. Two of the six tractors promised were delivered to the dealership, but were recalled by the manufacturer concerned when its representative overheard part of a conversation which revealed that they were not for local consumption.<sup>16</sup>

The general problem encountered by Mr. Graham and presumably others seeking to purchase tractors in Britain for export is set out in the letters addressed to Mr. Shepherd (Mr. Graham's initial Scottish contact).<sup>17</sup> Only those tractors which were a year old and from the dealer's contract hire fleet could be exported. The second letter to Mr. Graham makes the point that "it is open to doubt whether this [restrictive] clause would hold water if a Dealer referred it to the Restrictive Practices Tribunal, but no responsible dealer would be prepared to take this risk and prejudice his good relations with Ford".<sup>18</sup> This may indicate that, whatever the legal position, the company's restrictions would be likely to stand because the dealer could not defy his company.

As noted in earlier exhibits such as the statement by David Crone<sup>19</sup> the Ontario Federation of Agriculture had become aware that the serial numbers of the tractors it was importing were being recorded in transit or in Canada.

<sup>13</sup> See letter from J.H. Vernon, shown as Exhibit 2 of Appendix F.

<sup>14</sup> See cables from Mr. Hawkins to OFA re tire size, shown as Exhibits 4-1 and 4-2 of Appendix F.

<sup>15</sup> See statement by Kenneth Graham, shown as Exhibit 5 of Appendix F, page 1, and letter from I. Shepherd, Exhibit 5-1.

<sup>16</sup> See statement by Kenneth Graham, shown as Exhibit 5 of Appendix F, page 3.

<sup>17</sup> See letter from Elgin Central Engineers Ltd. to Ian C. Shepherd, shown as Exhibit 5-2.

<sup>18</sup> See letter from Elgin Central Engineers Ltd. to Kenneth Graham, shown as Exhibit 5-3.

<sup>19</sup> See statement by David Crone, *loc. cit.*

The serial numbers, made up generally from one on the engine and one on the transmission of each tractor, could be used by the company concerned to identify the British dealer who had sold the tractor and the farmer who had bought it originally, against whom action could be taken under the contract documents noted above. Although these serial numbers were easily found if one knew where to look for them, they were not as obviously placed as the serial number plates on automobiles.

To protect its farmer and dealer contacts in Britain, the Grey and Bruce Federations of Agriculture (two of the OFA member associations) arranged to have steel plates welded over the serial numbers of a number of tractors on one shipment. The numbers would not be visible to casual inspection, but available to the owner for parts ordering at a later date because the plate was welded along one side only.<sup>20</sup>

While this shipment of 13 tractors, 12 of one make, was being unloaded in the Canadian National Railways freight yard at Hanover, Ontario, on March 10, 1969, a number of representatives of various farm machinery companies appeared to watch the proceedings. Nine of the 12 tractors of the one make had their serial number plates covered as noted above. The company representative for this make expressed dissatisfaction at not being able to read the serial numbers because of the covering plates. The next morning, a number of serial number "cover plates" had been pried off, something which, the Commission was assured, could not have been done with just a screw driver. The plates were heavy enough to have required a wrecking bar as a lever to pry them up.<sup>21</sup>

It is necessary to visualize the scene fully to understand why only a few of the nine tractors whose serial numbers were covered up were tampered with. Two British dealers had been involved in supplying the 12 tractors of the one make. One supplied the nine tractors whose serial numbers were covered up, the other three only. Although new machines, these three tractors had had their pink, translucent, running-in oil removed and replaced with old motor oil (to be changed back by the farmer on arrival) and their hour-meters altered to show 1,000 hours of use. Visually, then, these were "used" tractors.

The nine tractors with hidden serial numbers were obviously new. No attempt had been made to camouflage the fact. Equally clearly, they had all come from the same dealership because the dealer's decal identification could still be seen, clearly enough to show their common source, although it had been scratched out enough to hide the dealer's name. It would not be necessary to prove that all these nine machines had come from the one dealer through identification of each serial number. The common decal and a few serial numbers would be enough to identify the source of the tractors.

The solicitor of the Ontario Federation of Agriculture received a phone call from a solicitor representing Ford Motor Company of Canada, Limited.<sup>22</sup>

<sup>20</sup> See statement by James Jacklin, shown as Exhibit 6 of Appendix F, page 2.

<sup>21</sup> See affidavits from James W. Jacklin, and Patrick F. Jacklin, shown as Exhibits 6-1 and 6-2 of Appendix F.

<sup>22</sup> A reference to this phone conversation is found in the second last paragraph (page 3) of the statement by David T. Crone, shown as Exhibit 1 of Appendix F.



A warning had been issued by him that the Ontario Federation of Agriculture might be violating the trade marks legislation because of its association with the importation of tractors bearing the trade marks "Ford" or "FoMoCo".

In examining the statements and affidavits described above, it is difficult not to conclude that the separation of markets is regarded very seriously by farm machinery manufacturers. In the letter quoted as Appendix E arguments are marshalled to indicate that the matter is one of high principle, one of protecting the dealer in Canada (or the United States) so that a viable dealer organization can be maintained.

Is this argument, that the dealer must be protected, valid? Undoubtedly it is — successful company sales in any market are based on a successful dealer or distributor organization in that area — but quite clearly this is not the only reason for market separation. Market separation would not have to be imposed by artificial, company-made barriers, if the price difference between markets did not make some form of "arbitrage" so attractive.



## Chapter 8

### SUMMARY AND RECOMMENDATIONS

This Report has examined in some detail the prices of tractors and combines in Canada and a number of other countries. Because international trade in tractors is very much larger than it is for combines, the major emphasis has been on tractors.

The Commission's study of tractor prices in Canada and other countries has shown that the prices of identical or virtually identical tractors, for all horsepower sizes up to 75 HP, are very much lower in Britain and a number of other countries of Western Europe than they are in Canada. This is true whether the comparison is made on the basis of suggested retail prices or net wholesale (dealer) prices. Even before sterling was devalued in November 1967 the price differences were substantial. They have become even larger since devaluation. Thus, during the 1967 selling season net wholesale prices of tractors – that is, the prices at which the companies sell their tractors to the dealer – averaged from 17 to 38 per cent lower in Britain than they did in Canada. By 1968 this spread had widened to from 30 to 45 per cent. In absolute amounts the differences in 1968 ranged from \$837 to \$2,287 at the dealer level. Similar although somewhat smaller differences in price exist between Canada and many other countries. Prices of the larger horsepower tractors, those above 75 HP, are higher in Western Europe than they are in Canada and the United States. However, only a small number of these models are sold in Europe.

Some of these price differences reflect the cost of shipping tractors to Canada and the additional costs incurred by the companies in selling in the dispersed Canadian market. But in all but a very few instances these additional costs account for only a part of the price differences that exist. The remaining differences reflect a larger profit to the farm machinery companies. In the 1968 selling season, for the five tractor models that the Commission examined in some detail, it was estimated that on the average 67 per cent of the price difference reflected higher costs and 33 per cent was due to higher profits (see Table 6.7). This estimate covered profits accruing to the international companies on a worldwide basis, including profits earned in Britain or other European countries as well as profits earned in Canada or the United States. If the two Massey-Ferguson tractor models included in this comparison had been imported directly from Europe, only 55 per cent of the price difference would have been reflected in higher costs and 45 per cent in higher profits.

The lower tractor prices that currently prevail in Britain and in other Western European countries are paralleled by the lower manufacturing cost levels of this region. The Commission's estimates indicate that tractor manufacturing costs in Britain are currently about 75 per cent of those in North America. This estimate assumes the manufacture of identical tractors at the same volume. In addition, two manufacturers who have major manufacturing facilities in Western Europe, Ford and Massey-Ferguson, have a worldwide volume in the range of 120,000 to 160,000 units a year, and this gives them an additional cost advantage. Commission estimates show that for large-volume tractor manufacturing operations in Western Europe (120,000 units a year) production costs may be only about 60 per cent of those achieved by medium-volume producers (60,000) in the United States.

Tractor prices on the North American continent appear to be set by the two firms with the largest share of the market, International Harvester and Deere. These prices are undoubtedly set in relation to North American cost levels. Both of these firms supply the U.S. market entirely from domestic production. The two firms with the largest output on a worldwide basis, Ford and Massey-Ferguson, supply the U.S. market with tractors assembled in Detroit, but for both firms a large proportion of the components in these tractors are manufactured in Western Europe, mainly in Britain. For most of its tractor models, Ford supplies the Canadian market directly from Britain. For these two firms, North American price levels undoubtedly provide a very handsome profit margin. Further, since a number of smaller producers – firms with annual tractor outputs of 20,000 or less – have been able to survive at North American price levels, there is strong evidence that these prices provide very substantial profits on tractors for Deere and Harvester. The Commission's cost estimates show that a price that would provide a gross return on manufacturing assets of about 12 per cent for a manufacturer with an annual output of 20,000 tractors would yield 32 per cent at 60,000 units and 44 per cent at 90,000 units.

An evaluation of Canadian tractor prices by horsepower size indicates that current price levels provide a very much larger margin over manufacturing cost for the larger tractors than for the smaller tractors. In part, this is due to the fact that competition from independent European producers and from European sources of supply has caused a reduction in tractor prices in the lower horsepower ranges. It may also reflect the fact that pricing has been less competitive for very large tractors. Costs per horsepower decline as the size of tractor increases but prices per horsepower do not decline by an equivalent amount. Only a very few firms in Western Europe are currently producing tractors of 75 horsepower and over. As a result, tractors in this size range have not felt the competitive influence of lower-cost European models.

For combines, the Federal Republic of Germany (West Germany) is the lowest-priced country by a significant margin. It is also the western country with the largest volume of combine production in a single plant. Net wholesale prices to the dealer in West Germany are from 24 to 28 per cent lower than dealer prices for substantially identical combines in Canada. Dealer prices in Britain on combines are from 7 to 15 per cent below their Canadian equivalent. In absolute dollar amounts these differences in dealer prices range from \$1,800 to \$1,950 for the West German-Canadian comparison and from \$550 to \$1,200 for the British-Canadian comparison. For other countries the picture is more varied and less complete information is available.

International trade in farm tractors is dominated by a few large multi-national corporations. The prices they set in different markets and the decisions they make about where to establish new factories and about how and from where to supply different markets are made in the interests of the global corporation as a whole. In the longer run these decisions are largely governed by basic economic forces such as the production costs in different areas and the competition, both actual and potential, of other firms. But in the short run – and this short run may extend over a number of years – these decisions may run counter to those which would occur if there were independent companies operating in each country. Thus a large multi-national corporation may hesitate to reduce its price and compete more actively in one market for fear that one of its large competitors will retaliate in

some other part of the world. These companies undoubtedly plan their competitive strategies on a worldwide basis with longer run worldwide interests in view. At times, these interests may conflict with the interests of individual countries within which they are producing or selling.

Many of the decisions made by the multi-national corporation fall outside the control or jurisdiction of the government of any single country. A decision may be made in Chicago or Detroit or London to supply Canada with tractors or combines from Britain or France or West Germany and to charge the Canadian selling organization a given price for them. The same executives may decide to supply the U.S. market from the same or a different source. The motives for these decisions may be varied. The company concerned may wish to protect the higher price and profit level that exists in one market. The company may have excess capacity in one factory which it wishes to utilize. There may be a tax advantage in realizing a larger share of their profits in one country rather than another. Yet the country whose interests are adversely affected may be quite different from the country in which the decisions are being made. The country adversely affected may find there is little it can do, acting by itself, to change the policy in question. To an important degree, these multi-national corporations are independent of the national authority of individual countries. At the present time, no international authority exists which can exercise control over them. For a country such as Canada, whose industry and trade is very largely in the hands of large multi-national corporations, the independence with which these companies operate has far-reaching implications.

For individual countries and for the world as a whole the operations of these companies and the decisions they make possible may yield advantages as well as disadvantages. To an important degree, it is the multi-national corporation that makes it possible to mobilize management, marketing and research skills on a worldwide scale. The integration of their tractor production on a worldwide scale recently carried out by Ford and the high degree of component commonality developed in their manufacturing operations by Massey-Ferguson are examples of cost reductions achieved in this way.

Because the role of the multi-national corporation is so important in Canada and because these firms exert such a dominant influence on the prices of and on the production and trade in tractors and combines, it will be useful to review some examples of decisions in this field which have been revealed by the Commission's investigations. The motives for the decisions involved are often far from clear. For this reason, any interpretation placed on them must be to some degree speculative.

Analysis of the prices charged for tractors in different countries by the various multi-national corporations in the farm machinery business strongly suggests that the prices charged for an identical tractor in different markets may bear no very direct relation to cost. Prices in each market will reflect local cost influences and patterns of competition. But the price charged for an identical tractor in one market may yield the manufacturer a much higher profit than the price charged in another market. Reference has already been made to the higher profits earned from the sale of tractors in Canada, compared with profits earned from the sale of identical tractors in Britain. Other examples can be given.

The Model 710 tractor manufactured by Deere in its plant in West Germany is sold in both Canada and Britain. The net wholesale price to the dealer in Britain



is almost \$1,200 lower than it is in Canada even though this tractor comes into Canada duty-free and has to pay an estimated \$450 in duty when imported into Britain. Again, the Deere 5020 Row Crop tractor manufactured in the United States is sold in both Canada and the United States. Its net wholesale price in Britain is about \$1,650 higher than in Canada. Yet to land this tractor in Britain would cost Deere an estimated \$1,900 in duty and ocean transport costs. The Canadian price is f.o.b. the U.S. factory. Both these comparisons are for prices prevailing in the 1968 selling season. It is clear from these examples that the price and profit levels vary significantly from one market to another.

These differences in prices and profits are possible because the movement of tractors from one market to another is closely controlled by the manufacturer. Any attempts to bypass normal channels of distribution are strongly resisted by the companies involved. This is clearly evident in the steps taken by the various farm machinery companies to prevent Ontario farmers from importing tractors directly from Britain. Although the companies argue that their motive in preventing such direct importation is to protect their Canadian dealers, their Canadian distribution system and the quality and reputation of their product, it is clear that other motives are involved. To some degree it is the price and profit level in Canada and in North America as a whole that the companies wish to protect. Indeed, this may well be the primary motive. Moreover, and this is a key point as far as any recommendations are concerned, most of the steps taken to prevent the direct importation by Ontario farmers occurred within Britain, outside the jurisdiction of the Canadian government.

As was noted in Chapter 6 of this Report, the pricing policies adopted by these multi-national corporations after sterling was devalued in 1967 directly affected the way in which British trade in tractors would respond to devaluation. The evidence suggests that the companies simply increased their export supply prices in sterling by the amount of devaluation. There is no evidence that the lower price of sterling in Canadian dollars had any effect whatever on the prices charged for British tractors in Canada. Similarly, companies such as Deere who supply tractors to the British market from the United States and West Germany appear to have reduced their price to their British subsidiaries by enough to offset most of the effects one normally expects from a currency devaluation. Whether or not these policies are in the best longer run interests of the British economy is not easy to judge. However, it is clear they are made by the multi-national corporations involved in pursuit of their own worldwide interests. Little evidence is available about the pricing policies adopted by the various companies when the Canadian dollar was devalued in 1962. Yet these pricing policies may well have had important effects on Canadian exports and imports of farm machinery.

One of the key decisions made by the multi-national corporation is with respect to the prices at which they supply tractors and other farm machines to their Canadian selling subsidiary. Equally important may be the prices at which the Canadian subsidiary supplies the products manufactured in Canada to their related organizations in other countries. The former decision is made outside Canada and is largely beyond the direct influence of Canadian jurisdiction. Nominally, at least, the latter decision is made within Canada by the Canadian subsidiary and comes within Canadian jurisdiction. In fact, this latter decision may well be made, and will certainly be reviewed by executives of the parent firm.



Examination of these transfer prices, that is prices at which goods are transferred from one division of the multi-national corporation to another, provides additional evidence of the extent to which the prices of tractors supplied to different countries may diverge from underlying costs. The prices at which tractors were supplied to the Canadian subsidiaries were compared with the prices at which identical tractors were supplied to dealers in Britain.

One would normally expect the transfer price to the Canadian subsidiary to be well below the price to the British dealer, since the company must meet selling and distribution expenses in Britain out of the latter price. When tractors are shipped to Canada these same expenses are incurred by the Canadian selling organization.

In the most extreme instance the transfer price to the Canadian subsidiary was 166 per cent of the wholesale price to the dealer in Britain. For another firm, the transfer price to the Canadian subsidiary on four different tractor models averaged 109 per cent of the wholesale price in Britain during the 1967 selling season. By 1969, after devaluation, this firm's average transfer price had increased to 121 per cent of its price to the dealer in Britain. For still other firms the transfer prices ranged from 88 to 97 per cent of their British dealer prices. In every instance reported to the Commission the ratio of the transfer price to the dealer price in Britain was higher after devaluation than it was before. In all these instances the transfer price compared was for a tractor f.o.b. a European port.

These comparisons not only underline the degree to which prices in different countries are determined by the multi-national corporation; they indicate also that the higher prices charged to dealers and eventually to farmers are to a very significant degree outside the control of the Canadian farm machinery company. The price at which the Canadian subsidiary acquires the tractor is often higher than the dealer price in Britain, and sometimes very much higher. On top of this the Canadian selling organization must add transportation charges to Canada and the selling and administrative costs incurred in Canada. It is clear too that the price to a Canadian subsidiary must often yield the global company a much higher profit than the price at which it sells the same tractor in Britain.

### Recommendations

The recommendations that follow are restricted to tractors. There may be room for equivalent recommendations with respect to combines as well. Net wholesale prices of combines in West Germany appear to be substantially lower than they are in Canada. However, the Commission's information here is based on a fewer number of instances. In addition, the Commission did not carry out a study of the economies of scale in combine production comparable to that which was undertaken for tractors because of time and staff limitations. Thus, it is not possible to draw firm conclusions about the profit levels that exist for larger volume combine operations. However, more complete information might well show results similar to that obtained for tractors. For this reason, it is recommended that the government have a study made of combine production costs similar to that for tractors provided by the Commission's study<sup>1</sup> *Farm Tractor Production Costs: A Study in Economies of Scale*.

The government should deliberately set out to achieve a lower level of tractor prices for Canadian farmers. Its longer run goal should be a level of tractor prices

<sup>1</sup>Royal Commission on Farm Machinery, *Farm Tractor Production Costs: A Study in Economies of Scale, Study No. 2* (Ottawa: Queen's Printer, 1969).

that adequately reflects both the lower production costs which currently prevail in Britain and the additional cost reduction that accompanies larger volume production. It should also look for a greater price reduction in percentage terms on the larger horsepower tractors than on the lower horsepower models. The goal here should be a set of tractor prices that more closely reflect relative production costs.

The attainment of such a goal does not suggest that tractor production or marketing should become an unprofitable business. But it does imply that some firms now producing tractors may have to cease production or amalgamate with others. Between five and 10 firms of an efficient size could easily produce all the tractors currently sold in the non-Communist world. In fact, some 20 to 30 firms are now producing tractors in significant volume. Farmers are often told that they must become more efficient if they wish to survive in a competitive world. There is no reason why the same rule should not apply to the tractor manufacturing industry. And, as the Commission's study on *Farm Tractor Production Costs* indicates, the achievement of over-all efficiency in tractor manufacturing will require the elimination of many smaller scale operations.

The goal of lower tractor prices for Canadian farmers may not be easy to achieve. Almost all the tractors sold in Canada are currently produced outside the country. The prices in different countries are presumably established by, or at least with the concurrence of, the parent firms of the different selling subsidiaries involved. Many of these parent firms have their head offices in the United States and all but one are located outside Canada. Of all the international firms involved, only Massey-Ferguson has its head office in and is controlled from within Canada.

Moreover, as has been so clearly demonstrated in this Report, the multi-national corporations who dominate the farm machinery business not only closely control the movement of tractors and other farm machines from one country to another but also appear to set — on a fairly arbitrary basis — the prices at which these machines are supplied to their Canadian subsidiary. Given this degree of arbitrariness in supply prices to Canada and the degree of independence from normal competitive market forces that exists in this market, the government is almost forced into the position of negotiating directly with the multi-national corporations involved if it wishes to achieve any change in the situation. No step short of this is likely to achieve the required results.

The following recommendations have been drawn up with these considerations in mind. The recommendations are not intended to be alternatives. They represent a number of different steps that the government might consider. It may wish to implement some and not others. Almost inevitably it must talk directly with the parent companies involved if it wishes to have the desired result.

1. The government should discuss the price differences that currently exist between Canada and Britain with representatives of the parent companies concerned and ask them for an assurance that tractors will not be priced at levels that provide the company with a larger profit on a tractor sold to a Canadian farmer than is obtained on the sale of the same tractor to a farmer in Britain or in some other European country. If the companies abide by this practice, an immediate reduction in many tractor prices would result.

2. It should ask the companies concerned, particularly the larger ones with European sources of supply, if they are prepared to establish prices in Canada that are more in line with the costs incurred in their larger volume European operations.
3. It should ask the Combines Investigation Branch to review the findings of this Report and discuss them with their counterparts in the United States, Britain and other countries, with a view to possible action.
4. It may also wish to discuss directly with the British government the Commission's Report in general and in particular the section dealing with the steps that have been taken to prevent Canadian farmers from importing tractors directly from Britain.
5. If the companies are uncooperative, the government may wish to undertake negotiations with some low-cost producers not currently represented in the Canadian market. For example, the Zetor tractors produced in the Skoda works at Brno, Czechoslovakia, have captured a significant share of the British market even in the face of the lower prices prevailing there and are currently available in sizes up to 80 horsepower. Most of their models have been tested by the Nebraska testing establishment. Perhaps arrangements could be made to have their tractor distributed in Canada through Canadian Co-operative Implements Limited and with the support of the various farm organizations at prices more in line with those which currently prevail in Britain.
6. An additional measure along the same lines would be to approach one of the Japanese tractor manufacturers who are now marketing comparatively small tractors to see whether they would consider moving into the world tractor manufacturing business in a major way, producing large horsepower tractors as well as small.
7. In those instances where the prices for tractors charged to the Canadian subsidiary are significantly higher than the prices to an equivalent selling organization in other countries, the government might wish to consider the establishment of a *reverse dumping duty*. The traditional dumping duty is designed to protect manufacturers from competitors who sell in the export market at prices below those prevailing in their home market. A reverse dumping duty would be designed to protect consumers from the practice pursued by multi-national corporations of selling at higher prices in one market than they do in another, the objective presumably being to maximize their worldwide profits. The proposal is to levy a duty equal to 100 per cent of the amount by which the price to the Canadian selling



organization exceeds the price charged to an equivalent selling organization in the country where the tractor or other product was manufactured. The duty collected could then be used to subsidize the purchaser and thus provide him with the same price treatment as that accorded consumers in other markets. To cover instances where the tractor or other machine was manufactured in more than one location, the Canadian selling subsidiary organization of the multi-national farm machinery company would also need to be given the right to import from the lowest cost source of supply. Because such a proposal is far-reaching and could be applied to a wide range of products beyond farm machinery, its implications would need to be studied carefully before it was implemented. It is put forward here for the government's consideration.

The multi-national corporations could, of course, reduce their transfer prices to the Canadian subsidiary without reducing their Canadian selling prices. The result would simply be a transfer of profit from the country of origin to Canada. However, when the Canadian subsidiary receives its tractors or other farm machines at the same prices as the equivalent subsidiary in other countries, any difference in the final price to the farmer, aside from transport costs, will simply reflect differences in cost or competitive conditions within the Canadian economy. As such, they come within the jurisdiction of the Canadian government. Differences in cost and competitive conditions within the Canadian market will be examined in some detail in the Commission's Final Report.



## Appendix A

### PRICE, DISCOUNT, AND MANUFACTURING COST LEVELS IN CANADA AND OTHER COUNTRIES

This section discusses in detail the information used to describe the system of transactions in Chapter 3. Data sources are disclosed, and the methods used in analyzing and interpreting the data to arrive at realistic price, discount, and manufacturing cost levels are explained. In order of presentation the items discussed are:

- Dealer discounts in selected countries
- Prices paid by farmers for new machines and realized dealer margins:
  - United States
  - Canada
  - Britain
- (More data are available on U.S. distribution margins than Canadian, and Canadian distribution margins are derived in part from them. Hence, the data on U.S. margins are presented first.)
- Worldwide manufacturing costs
- U.S. Manufacturing costs.

#### Dealer Discounts in Selected Countries

To determine the net selling price to dealers for the international price comparisons, dealer discounts must be deducted from suggested retail prices. Dealer discounts are subject to a host of influences (for example, volume of business and the local competitive situation, to mention a few important ones) which bring about a wide range of discounts even for the same products. The use of average dealer discounts indicates the general level of the net selling price to dealers in an individual country. This section, then, discusses the sources of information and methods used to arrive at average dealer discounts in the various countries selected for comparing international farm machinery prices.

First, it is important to clear up a number of terminology problems related to “dealer discounts”. The following definitions have been adhered to throughout the analysis.

*Trade Discount* – initial mark-down from (or “discount” off) suggested retail price (SRP) at time of invoicing (e.g. in Canada the trade discount for most companies on tractors is 23 per cent).

*Incentive Discounts* – any discounts in addition to the initial trade discount of SRP (e.g. cash discounts, volume bonuses).

*Dealer Discounts* – *total* of the trade discount *plus* any incentive discounts of SRP (e.g. in the Canadian situation the dealer discount on tractors is usually 27 per cent; it is made up of a 23 per cent trade discount plus a 4 per cent volume bonus). Thus the suggested retail price less the dealer discount equals the net wholesale price (NWP), the price paid by the dealer.

TABLE A.1—FARM MACHINERY DEALER DISCOUNTS\* BY COUNTRY, 1966, 1967

(Expressed as percentage of suggested retail price)

Source of Data	Canada	United States	Britain	France <sup>1</sup>	Italy	Federal Republic of Germany	Sweden	Australia	South Africa	Source of Information <sup>2</sup>
Trade Sources		27 <sup>7</sup>			21 <sup>8</sup>	37 <sup>8</sup>				Distributors in Country
David Brown	9			16	20	35	25	20		Correspondence
Cockshutt	27				20					Vol. 28, pp. 2929-30
Deere	27									Correspondence
Ford	(27)		18.3 <sup>4</sup>							Vol. 31, pp. 3298-99
	(		19	16.5		6	19.5	19.5		Correspondence
International Harvester	(26.9)									Vol. 33, pp. 3570-71
	(		18.4				19			Correspondence
Massey-Ferguson	(27)		18.5	15.5	21.9	32	23.7	18.9		Vol. 37, pp. 4175, 4181
	(				32.8	33.5				Correspondence <sup>5</sup>
Average Massey-Ferguson		18.5								
Volvo		17.5 <sup>3</sup>								
Average dealer discount — rounded to two significant figures	27	27	18	16	21	35	24	19	19	Correspondence

\*“Dealer discounts” include initial trade discount at time of billing plus any incentive discounts.

<sup>1</sup> Discount off suggested retail price including turnover tax.<sup>2</sup> Volume (Vol.) references refer to Hearings, Royal Commission on Farm Machinery.<sup>3</sup> Correspondence with dealers or Canadian Trade Officials.<sup>4</sup> Maximum discount allowed.<sup>5</sup> Farm machinery discount rates based on average for tractor rates.<sup>6</sup> In mid-1967 Ford reduced its list prices in the Federal Republic of Germany by 20 to 25%, thus reducing its discount granted to dealers to about 14%. (Translation of “Der grosse Schlag”, *Schlepper-Dienst*, Issue 305, June 1967, p. 1). Since Ford list prices for Germany in the international price comparisons were related to the 1966 selling season, the average industry dealer discount in Germany (35%) was used to calculate net wholesale prices for Ford.<sup>7</sup> Trade discount is 23% per correspondence with International Harvester and National Farm and Power Equipment Dealers’ Association, *Official Tractor and Farm Equipment Guide* (St. Louis, Mo.: NRFEA Publications, Inc., Fall 1966 and 1967), p. 362 and p. 370 respectively; a volume discount of 4% of the SRP (Appendix A text) is added on, giving a total dealer discount of 27%.<sup>8</sup> Supplied by one distributor in particular country.<sup>9</sup> The 33% discount for the David Brown Tractors (Canada) Limited is not included in the average dealer discount for Canada because it is not representative of the position of the major firms.

Some confusion may also arise in distinguishing between dealer discounts and dealer margins. A dealer discount is the percentage of the SRP *available* to the dealer. In virtually all sales of farm machinery in Canada, however, dealers sell machines below the manufacturer's SRP, either by allowing a "no trade-in" discount or by over-allowance on the machine traded in. The difference between the dealer's selling price to the farmer and the dealer's purchase cost of the machine from the manufacturer represents the *realized* dealer margin. In the United States and Saskatchewan, in 1967, dealer margins (excluding volume discounts) on new machines were 11.1 per cent of sales (Table 3.2). Thus, for this case at least, dealer margins were substantially below the initial trade discount of 23 per cent.

Average dealer discounts by country, shown in Table A.1, were secured mainly from the farm machinery companies. These data were combined with data on discount rates provided by Canadian trade officials and foreign distributors in Table A.1. Data from all sources were remarkably consistent for individual countries. This provides a large measure of confidence in the use of a single discount rate for each country in subsequent analyses.

The original figures supplied by the various sources required interpretation in several cases. Some companies, for example, indicated a range of discounts depending upon the size of the dealer. In these situations, the average dealer discount granted to dealers representing the largest proportion of sales volume of the company is the one shown in the tabulation. For example, the dealer discount of 19.5 per cent, shown for Ford Australia is actually received by dealers representing 80 per cent of the sales volume of that company in Australia. The figures in the table reasonably represent the discount received by the typical dealer in the particular country.

Another data problem arose because of the method of distribution employed by some companies in the different countries. Some of the smaller companies sell to foreign distributors who in turn sell to farm equipment dealers. With isolated exceptions, however, the major North American based companies control their own distribution networks. For comparative purposes, therefore, dealer discounts were listed in the table assuming that all companies controlled their own distribution systems. Thus, for some of the smaller non-North-American companies, the net selling price to dealers represents the revenue received by an independent distributor.

A single discount rate for each country was computed by taking the average of rates received from all sources. As noted on the table, several discount rates have not been used in calculating the averages since they are substantially different from the majority of observations for a particular country. The average dealer discounts, as computed in Table A.1, are shown also in Table 3.3 in the main text.

#### **Prices Paid by Farmers for New Machines and Realized Dealer Margins in the United States**

Major companies grant to dealers a retail discount at time of shipment which, in the case of several major producers, is 23 per cent. Although dealers earn various other discounts from manufacturers — the principal addition being a volume bonus — such extra discounts tend to be regarded by the retail trade as "other income" and are not included in the calculation of gross margin.



If dealers sold new machines at suggested retail price and did not overvalue trade-ins or grant other discounts from the suggested retail price, it would follow that the gross margin on the sale of new and used machines of such dealers would be 23 per cent. However, the Cost of Doing Business Study (published annually by the National Farm & Power Equipment Dealers Association on the basis of a survey of some 1,600 dealers in the United States and Saskatchewan) indicates an average gross margin on the combined sales of new and used machines of between 8 and 9 per cent in recent years.

For purpose of analyzing what a farmer actually pays for a new machine relative to its suggested retail price, it is useful to consider the combined gross margin on new and used sales as a percentage of new sales only. In other words, it has been assumed that the used equipment business is a break-even operation, rather than the loss operation indicated by most surveys. In the case of the 1966 Cost of Doing Business Study, this combined gross margin (which is 9 per cent of combined new and used sales) is 11 per cent of sales of new machines only. An approximation of what the average farmer actually pays for his new machine can be arrived at as follows:

Suggested retail price — new machines only	100.0
Invoiced cost to dealer	77.0
Actual price paid by farmer*	86.5
Dealer margin (11% of actual price to farmer) excluding volume bonus	9.5

\*Computed using the knowledge that the purchase price paid by dealer is 89% of actual selling price to farmer (11% gross margin in new machines). Therefore, actual price paid by farmer =  $\frac{.77}{.89} = 86.5$

It should also be pointed out that the accounting treatment of the discount given to the farmer is arbitrary in that it can be shown as a discount from the sales price on the new machine, or, as is the custom, as an increase in the value of the trade-in. In fact, since the selling of new and used machines is a joint product operation, it is impossible to state what the actual margin is on new machines as opposed to used machines. The only thing that can be stated with certainty is that the over-all gross margin on the combined sales of new and used machines appears to be in the order of 9 per cent (11 per cent of new machines only) for a large number of dealers in the United States and Western Canada. To the extent that the sale of new and used machines is a joint product operation, the use of the 11 per cent gross margin, relative to new machines only, is an arbitrary allocation. However, the resulting price (86.5 per cent of suggested retail) is probably a fair approximation of what the farmer actually pays on average for his new machine.

Dealer margins excluding volume discounts have been estimated at 9.5 per cent of SRP as shown above. In the 1966 Cost of Doing Business Study, volume discounts amount to 4.1 per cent of the sales value of new whole goods and repair parts. Since farmers pay 86.5 per cent of SRP for new whole goods, volume discounts amount to 3.5 per cent of SRP (4.1 per cent of 86.5 per cent). The amount is in line with volume discounts as stated or implied by the manufacturers in the public hearings. Total realized dealer margin (including volume discount) on sales of new whole goods is therefore 13 per cent of SRP (9.5 per cent + 3.5 per cent).



Although only one year (1966) was used in preparing this analysis, dealer margins in North America (excluding volume discounts) have changed very little over the last few years as shown below.

<u>Year</u>	Dealer margin on new and used machines (excluding volume discounts) – “average” dealer
1962	9.3 per cent
1963	9.5 per cent
1964	8.9 per cent
1965	8.2 per cent
1966	8.6 per cent
1967	8.4 per cent

In summary, the following figures have been used in referring to prices paid by farmers and realized dealer margins related to sales of new machines in the United States. The figures have been rounded and are shown as percentages of SRP in the United States.

	Percentage of United States SRP (United States SRP = 100)	
	<u>Calculated in Analysis</u>	<u>Rounded %</u>
Price paid by farmer	86.5	86
Dealer margin:		
excluding volume discount	9.5	9
volume discount	<u>3.5</u>	<u>4</u>
Total	<u>13.0</u>	<u>13</u>
Net selling price to dealers		<u>73</u>

#### **Prices Paid by Farmers for New Machines and Realized Dealer Margins in Canada**

Although there is no yearly survey of Canadian dealers comparable to the U.S. Cost of Doing Business Study, an indication of the margins earned by Canadian dealers can be obtained from several sources.

A number of the farm machinery companies provided Canadian dealer financial results based on internal surveys. Some of the provincial dealer organizations also provided information based on their own polling of their membership. Table A.2 summarizes the financial results extracted from these two sources, together with comments on the extensiveness of the surveys.

Although relatively sketchy in comparison with information available for the United States, the data clearly show that realized dealer margins were roughly 2 per cent lower in Canada than in the United States. Using a dealer margin of 13.5 per cent (of the price paid by the farmer – Table A.2) as representative of the Canadian situation, the price paid by the Canadian farmer will be slightly lower as a percentage of SRP than in the United States as shown below.

The lower Canadian dealer gross margin is also related to the way in which suggested retail prices are calculated in Canada. For the majority of companies, the price list contains two prices, the SRP and a dealer price, 23 per cent lower, expressed in some coded form. The price the dealer pays, for all but two companies

TABLE A.2—CANADIAN FARM IMPLEMENT DEALERS' OPERATING MARGINS

Source	Year	Sales of Equipment		Total Equipment Sales	Repair Parts Sales	Gross Margin		Total Margin (New & Used)	Total Percentage Margin as Sales (7÷1)	Volume Bonus		Volume Bonus as Percentage of New Equipment Plus Parts Sales	Remarks
		New	Used			New	Used			(9)	(10)		
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)		
		\$	\$	\$	\$	\$	\$	\$	%	\$	%		
Massey-Ferguson Brief, Chapter V, pp. 33-36	1966	276,596	109,870	386,466	57,056	33,937	(5,213)	28,724	10.4	12,338	3.7	Returns from 15% or 100 to 110 of Massey's Cana- dian dealers generally in the high volume brackets.	
Alberta Retail Imple- ment Dealers Associa- tion, Brief, Appendix I	1963	198,607	99,216	297,823	n.a.	38,721	(11,589)	27,132	13.7	5,247	2.6 <sup>2</sup>	Results from Mr. "X", an Alberta farm implement dealer.	
	1964	287,985	97,935	385,920	n.a.	41,992	(11,913)	30,079	10.4	12,846	4.4 <sup>2</sup>		
	1965	254,247	123,674	377,921	n.a.	44,054	(26,286)	17,768	7.0	12,350	4.9 <sup>2</sup>		
	1966	363,519	123,426	486,945	n.a.	73,851	(52,736)	21,115	5.8	19,506	5.3 <sup>2</sup>		
Canadian Federation of Farm Equipment Dea- lers, Brief, Appendix III	1965	423,930	218,473	642,403	105,000	54,210	(21,242)	31,968	7.5	27,424	5.2	Returns submitted by 46 Saskatchewan high volume dealers	
Average of percentages — all results													
— Massey and Saskatchewan dealers only										9.1	4.4		
										9.0%	4.5%		
										13.5%			

n.a.— not available

□— Results used as most representative of current Canadian dealer margin levels (text of Appendix A).

1 Other income and deductions in operating statements of Massey-Ferguson and Saskatchewan dealers.

2 Percentage of new equipment sales only.

	Percentage of Price Paid by Farmer	Percentage of Canadian SRP (Canadian SRP = 100)	
		Calculated in Analysis	Rounded %
Price paid by farmer <sup>1</sup>		84.4	84
Dealer margin:			
excluding volume discount	9.0 <sup>2</sup>	7.6	7
volume discount	4.5 <sup>2</sup>	3.8	4
Total	<u>13.5</u>	<u>11.4</u>	<u>11</u>
Net selling price to dealers <sup>3</sup>			<u>73</u>

<sup>1</sup> Calculated from the knowledge that the dealer's cost of sales is 86.5 per cent of the price paid by the Canadian farmer. Since the net selling price to Canadian dealers is 73 per cent of Canadian SRP, the price paid by the Canadian farmer is 84.4 per cent of SRP as follows:  

$$\frac{73\%}{86.5} \times 100 = 84.4\% \text{ of Canadian SRP.}$$

<sup>2</sup> See Table A.2.

<sup>3</sup> Dealer margin in Canada is 27 per cent (Table A.1).

(Massey-Ferguson and Deere), has to be increased by a factor representing part of the exchange relationship between the Canadian and U.S. dollars, currently between 5 and 6 per cent. The effect of this surcharge is to decrease the gross margin available to the dealer in percentage terms.

#### Prices Paid by Farmers for New Machines and Realized Dealer Margins in Britain

In Britain, manufacturers' net selling price to dealers are 18 per cent off list, as indicated by several companies in the public hearings (Table A.1).

According to a 1966 dealer survey in Britain,<sup>1</sup> the gross margin achieved on new tractors and machines for the average dealer was 12 per cent. This figure was computed on the same basis as that used for North America — that is, gross margin on new machines, less losses on used machines, as a percentage of new machine sales only. The realized margin range was 10 per cent for the highest volume dealers, over £500,000, and 13 per cent for dealers between £100,000 and £200,000. The realized margin for the average dealer was used to compute the price paid by farmers in Britain as follows:

Net selling price to dealer	82% of SRP
Dealer cost of sales (analogous to net selling price to dealer)	88% of the price paid by the farmer
Price paid by farmers in Britain $\frac{82\%}{88\%} \times 100$	93% of SRP

From the same survey, it is worth noting that losses on used machines were 12 per cent of the price paid by the farmers in Britain, compared with a 2 per cent loss shown by North American dealers in the survey published by the National Farm & Power Equipment Dealers Association for the same year.

#### Worldwide Manufacturing Costs

Manufacturing costs (taken as equivalent to cost of sales) for the six major North American farm machinery firms are listed in Table A.3.

<sup>1</sup> Agricultural Machinery and Tractor Dealers' Association Limited, (comp.), *National Survey of Trading Costs, Margins and Profits in the Retail Agricultural Machinery Trade* (Rickmansworth, England, 1966), p. 4.

TABLE A.3—MANUFACTURING COST AS PERCENTAGE OF NET SALES TO DEALERS  
FOR MAJOR FARM MACHINERY FIRMS; WORLDWIDE RESULTS

	Deere	Massey-Ferguson	Case	International Harvester	Allis-Chalmers	White Motor
Percentage of Net Sales to Dealer						
Cost of sales including R&D per annual reports <sup>1</sup>	73.5	82.9 <sup>3</sup>	80.4	80.6	83.6	80.8
Research and development <sup>2</sup>	4.0	2.0	2.0 <sup>4</sup>	3.0	5.0 <sup>5</sup>	1.0 <sup>5</sup>
Cost of sales excluding R&D	69.5	80.9	78.4	77.6	78.6	79.6

<sup>1</sup> 11-year average (White Motor — 5 years) to the end of 1967.

<sup>2</sup> Rounded average of R&D as percentage of net sales to dealers for the years available over the 11-year period.

<sup>3</sup> Massey-Ferguson appears to exclude R&D from published cost of sales figure so the R&D percentage has been added to the cost of sales as determined from annual reports.

<sup>4</sup> Estimated — actual percentage is not available from any published sources.

<sup>5</sup> Only one year available.



As the data in this table show, manufacturing costs as a percentage of net sales to dealers range from 74 to 84 per cent when research and development costs are included, and 70 to 81 per cent when R&D costs are excluded.

In relation to selling prices, manufacturing costs have held a relatively constant level over the 11-year period ending in 1967. Current five-year averages (to the end of 1967) for Deere, Massey, and I.H.C. were virtually the same as the 11-year averages. In the same five-year period, manufacturing costs, as a percentage of company sales, decreased for J.I. Case by two percentage points, while Allis-Chalmers' costs rose one percentage point.

The ranges developed are related to a mixed bag of parts and whole goods, product lines, and sales in various countries where cost and price levels differ from North America. Given these limitations, there is no way in which manufacturing costs, on a worldwide basis, can be related to "worldwide list prices". However, the above figures do provide at least a benchmark of manufacturing cost levels as they relate to sales to the dealers.

### U.S. Manufacturing Costs

A relatively good estimate of the range of manufacturing costs in the United States can be made, using published information for Case and Deere for the high and low estimates respectively. The reasons for selecting these companies as representative of the industry cost range are related to firm size, geographic concentration of sales and production, and product concentration.

Among the three largest North American firms, Massey-Ferguson, although highly concentrated in farm machinery, manufactures and sells over 50 per cent of its products outside of the United States. Because of this, Massey's published figures are heavily influenced by cost of manufacturing and sales price levels which are quite different from the North American situation. Since the computation requires an estimate that will relate U.S. manufacturing costs and prices, Massey was considered unrepresentative. International Harvester corporate figures reflect a high concentration in non-farm machinery products, namely, trucks and construction machinery, and were therefore not used. Deere, on the other hand, is highly concentrated in farm machinery and has most of its production facilities and sales in North America as well. Deere was therefore selected as the best representative of the three large firms for estimating purposes.

While the three other major firms are all concentrated in the North American market (particularly the United States), only J.I. Case has a high degree of concentration in farm machinery. (White Motor is essentially a truck manufacturer. Allis-Chalmers also produces a large array of heavy electrical, construction, and other machinery.) J.I. Case was therefore selected as the best proxy for estimating the manufacturing cost level of these three smaller firms.

An 11-year average of manufacturing costs for these two firms is given below (see also Table A.3).

As Percentage of Net Sales  
to Dealers

	Deere	Case
Manufacturing costs including R&D	74	80
Manufacturing costs excluding R&D	70	78

	As Percentage of United States SRP <sup>1</sup>	
Manufacturing costs including R&D	54	59
Manufacturing costs excluding R&D	51	57

<sup>1</sup> Dealer margin in the United States is 27 per cent (Table A.1) manufacturing cost as a percentage of SRP is therefore calculated as:

$(1.00 - 0.27) \times [\text{manufacturing cost as a percentage of net sales to dealer}]$

The above cost levels relate to sales of both whole goods and parts. No attempt was made to estimate costs for parts and machinery separately, since parts typically account for under 15 per cent of sales.

## **Appendix B**

### **METHODS FOLLOWED IN PREPARING INTERNATIONAL PRICE COMPARISONS FOR TRACTORS AND COMBINES**

In selecting countries for which tractor and combine price comparisons were made, a number of criteria had to be used. Since the main interest of this Report is, of course, prices of North American based firms, countries in which these firms have been selling for a considerable number of years were first identified. Only four North American based firms (Deere, Ford, International Harvester, and Massey-Ferguson) have extensive farm machinery sales and manufacturing facilities outside North America, so countries where these companies were active were of major interest. Five countries in Western Europe (Britain, France, Italy, West Germany, and Sweden) were included in the comparisons for two reasons:

- (1) the four North American firms noted above are active in these countries,
- (2) each of the countries has a domestic producer (or producers) of farm machinery who, in most cases, has a substantial share of the domestic tractor market.

Most of the foreign based firms export to the other countries in Western Europe and to other countries of the world including Canada. Among the prominent foreign based farm machinery firms are David Brown, and British Leyland (Nuffield) of Britain; Renault of France; Fiat of Italy; Deutz, and Claas of West Germany; and Volvo of Sweden. Two other countries (Australia and South Africa) were also included in the detailed price comparisons. Australia is a major wheat exporter (a competitor of Canada in this respect) and was selected for this reason. South Africa was included to give some idea of price levels in another country outside the major farm machinery production areas, Europe and North America.

It was originally intended to include Argentina in the price comparisons, since this country, like Australia, is also a major factor in world wheat trade. It became quite clear, however, after a brief review of what sketchy price data were available for Argentina, that list prices for tractors in this country were high relative to Canada. For most models, prices in Argentina were 30 to 40 per cent above prices in Canada. It was also clear that it would be extremely time-consuming to get sufficiently comprehensive, accurate, and comparable price data for detailed analyses.

#### **Methodology of Price Comparisons**

A major problem in preparing accurate price comparisons for particular commodities between different markets relates to the availability of data. Certainly the problems relating to collection of detailed price lists and specification sheets for individual models of products in such a diverse group of countries as were analyzed might, at first glance, appear to be insurmountable. These difficulties were largely resolved, however, through the co-operation of two

groups: farm machinery firms and commercial counsellors in a number of Canadian trade offices abroad. Without the assistance over several years' duration of the people in these organizations, particularly the latter group, this section of this Report could not have been written.

The difficulties relating to collection of such detailed price information imposed certain constraints on the kind and the extent of the price analysis that could be carried out. With respect to the kind of analysis, the procedure used was to compare *suggested retail prices* and *net wholesale prices* of identical (or virtually identical) farm tractors and combines in the various countries. Ideally, of course, one would have preferred a comparison between the prices paid by farmers for particular products in different countries. This information is, however, almost impossible to obtain. Moreover, this ideal approach is not really as simple, or perfect, as it sounds, even if the data were available. First of all, the prices paid by farmers for a particular tractor or combine model in one country are not always the same even over a short-time period. All farmers (and dealers) do not have identical bargaining skills. Further, the problem of determining what price the farmer really pays when trade-ins are involved is very difficult to resolve with any precision. Even if such an analysis was performed for a particular country, one would then have greater difficulty in trying to compare prices paid by farmers in another country because of differences in specifications for the "average model" sold. The latter problem was largely taken care of in the analysis used in this Report by adding and subtracting options in the selected countries to make the machines identical.

In terms of the extent of the price analyses carried out in this Report, time and resources precluded an examination of prices for more than a single year for all countries. An exception to this was made for a comparison of prices between Britain and Canada subsequent to devaluation of Sterling in the latter part of 1967. British prices were, for the most part, more easily obtainable than those for other countries, because of the wealth of technical cost price data published by the British farm machinery industry.

Given this background of the problems related to data collection, the approach used in making international price comparisons in this Report can be placed in some perspective. The method used was to compare, first of all, suggested retail prices for identical tractor and combine models between the various countries. Then, using industry averages for dealer discount for each country, net wholesale prices were compared. The validity of the second comparison rests mainly on the accuracy of the list price comparisons, since determination of average dealer discounts in each country presented little difficulty.

What are the chief assumptions on which this methodological approach rests? Basically, three categories of assumptions can be identified. These relate to:

- point-in-time nature of the analyses
- estimates of option prices in a number of instances
- machine specifications.

Each of these items is discussed in general terms below.



*Point-in-Time Analysis*

Price lists used in the analyses were from one of the 1966, 1967, and 1968 selling seasons. (Selling seasons, throughout this Report, refer to farm equipment dealers' main selling months. In North America this is generally from the early spring to the fall of a calendar year.) Unfortunately, one particular selling season could not be used for the complete analyses. Since foreign country price lists took so much time to obtain, in a number of cases, it was necessary to use data for earlier years than would have been preferred. When the selling seasons were out of phase, a conservative approach was used by comparing, in some instances, a foreign list price with the Canadian list price of the previous season. Since there was no evidence of price decreases in any of the markets studied, this method will slightly overstate foreign prices relative to "comparable" Canadian prices in these situations. For example, a number of the South African price lists which were dated late 1967 or early 1968 for several companies have been compared to Canadian list prices for the 1967 selling season. South African prices are probably somewhat overstated, therefore, in these instances. For the most part, comparisons represent the 1967 selling season for both tractors and combines. One exception is the Ford tractor prices which are generally for the 1966 selling season.

*Option Price Estimates*

In a number of price comparisons, options or option prices were not available in a particular country to be added to, or deducted from, the basic models of that country to make it similar to the base models used in the comparison. In order to make the models in that country comparable to the machines in other countries, option prices were estimated either from another price list in that country or from Canadian price lists. This procedure had to be used most often in the case of tractor tires. Where possible, estimates of this kind were based on option prices for several companies, using an average price as the final amount to be added or deducted.

*Machine Specification Problems*

In a limited number of cases, price comparisons were made where the basic tractors or combines were not identical. This presented problems similar to those indicated in Chapter 5 in the development of comparisons of prices between companies. For example, the MF 175 tractor, as sold in Canada, was compared with similar horsepower tractors, the MF 177 and MF 178 in West Germany and South Africa respectively (Table B.1). Likewise, John Deere's North American combines were compared with their European combines, using the same analytical techniques described in Chapter 5 to match competitive combines. Although these comparisons are somewhat artificial, this kind of analysis was essential in order to get an idea of prices of comparable machines, particularly with respect to combines.

Probably the most important assumption of this analysis has been left to the last for discussion. If the machines have the same (or nearly the same) specifications, are the machines "equal"? More pointedly, is a Ford 5000 tractor with final assembly in Britain the same as a Ford 5000 tractor with final assembly in Belgium? This analysis assumes that the answer to these questions is a qualified yes. For, just as two tractors (or cars or any other manufactured

product) which are manufactured in the same plant by the same workmen, are, in fact, different, so also two models from different factories cannot be identical, particularly with respect to performance. Component parts of any manufactured article are built to specified tolerances, and are subject to quality control tests on a sampling basis, in most instances. Thus these machines are not exactly identical, and performance tests would demonstrate this fact. Despite these qualifications, however, one has to try to resolve these issues, or at least try to cope with the uncertainties, if comparative prices in different markets are cause for concern. There are large volumes of published data on comparative prices of relatively simple commodities (raw materials and agricultural products, for example). In the Commission's view, the objectivity of approach and painstaking analysis that went into these comparisons provide fair comparisons of extremely complex commodities.

Details on the comparative prices of tractors and combines for the different models of individual companies are given in Tables B.1 to B.8.

TABLE B.1—TRACTOR SUGGESTED RETAIL PRICES AND NET WHOLESALE PRICES, VARIOUS COUNTRIES,  
NORTH AMERICAN BASED FIRMS, GENERALLY 1966 OR 1967 SELLING SEASON  
(Canadian dollars)

Model	Nebraska Test No.	Max. PTO HP at Rated Engine r.p.m.	Selling Season	Dealer discount (as % of SRP) <sup>11</sup>									
				Canada	United States	Britain	France <sup>6</sup>	Italy	Federal Republic of Germany	Sweden	Australia	South Africa	
JOHN DEERE													
Deere 510	Mfr's Rating	37.5	1967	SRP 3,350									
				NWP 2,446						4,385 <sup>1</sup>	3,557		
Deere 710	Mfr's Rating	46.7	1967	SRP 4,600		3,558	4,585	4,436 <sup>4</sup>		2,850	2,703		
				NWP 3,358		2,918	3,072	3,504		5,139 <sup>1</sup>	4,674		
Deere 3020 Row Crop	848	65.28	1967	SRP 7,076	7,076					3,340	3,552		
				NWP 5,165	5,165						8,148		6,135 <sup>5</sup>
Deere 4020 Row Crop	930	94.88	1967	SRP 8,203	8,203	8,635				9,909	10,203		4,969
				NWP 5,988	5,988	7,081				6,441	7,754		8,160 <sup>5</sup>
Deere 5020 Row Crop (5010 in Sweden)	947	133.25 <sup>9</sup>	1967	SRP 13,401	13,401	14,872	18,751			15,174	15,335		6,610
				NWP 9,783	9,783	12,195	12,563			9,863	11,655		
FORD MOTOR COMPANY													
Ford 2000 8-speed	959	31.19	1966	SRP 3,313		2,492	3,260	2,736		3,930 <sup>1</sup>	2,694 <sup>2</sup>	3,017 <sup>3</sup>	2,764 <sup>3</sup>
				NWP 2,418		2,043	2,184	2,161		2,555	2,047	2,444	2,239
Ford 3000 8-speed	881	39.20	1966	SRP 3,480		2,509	3,617	2,834		4,563 <sup>1</sup>	3,055 <sup>2</sup>	3,187 <sup>3</sup>	3,040 <sup>3</sup>
				NWP 2,540		2,057	2,423	2,239		2,966	2,322	2,582	2,462
Ford 3000 10-speed	882	38.06	1966	SRP 3,880		3,005	4,181	3,417		4,914 <sup>1</sup>	3,472 <sup>2</sup>	3,567 <sup>3</sup>	3,521 <sup>3</sup>
				NWP 2,832		2,464	2,801	2,699		3,194	2,639	2,889	2,852
Ford 4000 8-speed	893	46.71	1966	SRP 4,311		2,933	4,359	3,673		5,068 <sup>1</sup>	3,937 <sup>2</sup>	3,977 <sup>3</sup>	3,480 <sup>3</sup>
				NWP 3,147		2,405	2,921	2,902		3,294	2,992	3,221	2,819

TABLE B.1 (Continued)

Model	Nebraska Test No.	Max. PTO HP at Rated Engine r.p.m.	Selling Season	Canada	United States	Britain	France <sup>6</sup>	Italy	Federal Republic of Germany	Sweden	Australia	South Africa
FORD MOTOR COMPANY												
Ford 4000 10-speed	892	45.62	1966	SRP NWP	4,794 3,500	3,503 2,874	4,866 3,260	4,225 3,338	5,534 <sup>1</sup> 3,597	4,440 <sup>2</sup> 3,374	4,500 <sup>3</sup> 3,645	4,062 <sup>3</sup> 3,290
Ford 5000 8-speed	879	55.96	1966	SRP NWP	5,237 3,823	3,121 2,559	4,803 3,218	3,958 3,127	5,196 <sup>1</sup> 3,767	4,568 <sup>2</sup> 3,472	4,519 <sup>3</sup> 3,660	3,793 <sup>3</sup> 3,072
Ford 5000 10-speed	880	54.17	1966	SRP NWP	5,637 4,115	3,620 2,968	5,217 3,495	4,441 3,508	6,065 <sup>1</sup> 3,942	5,053 <sup>2</sup> 3,840	5,000 <sup>3</sup> 4,050	4,320 <sup>3</sup> 3,499
INTERNATIONAL HARVESTER												
Int. Harvester 434	Mfr's Rating	36.0	1967	SRP NWP	3,398 2,480	2,604 2,135	3,790 2,539			3,472 2,639	3,256 2,637	3,423 <sup>5</sup> 2,773
Int. Harvester 706	955	76.09	1967	SRP NWP	8,407 6,137	9,739 6,213		8,511 7,986			7,557 6,121	
Farmall 706	955	76.09	1967	SRP NWP	8,614 6,288	8,725 6,369					8,596 6,963	
Int. Harvester 806	857	94.93	1967	SRP NWP	9,362 6,834	9,477 6,918	10,301 <sup>4</sup> 8,447				9,652 7,818	
Farmall 806	857	94.93	1967	SRP NWP	8,220 6,001	8,320 6,074				9,383 <sup>4</sup> 7,131	8,962 7,259	
MASSEY-FERGUSON												
Massey Ferguson 130	949	26.96	1967	SRP NWP	2,849 2,080	2,077 1,703	2,985 2,000	2,530 1,999	3,563 2,316	2,795 2,124	2,695 2,183	
Massey Ferguson 135 Deluxe	895	37.82	1967	SRP NWP	3,520 2,570	3,973 2,453		2,994 2,365	4,346 2,825	3,259 2,477	3,437 2,784	3,059 <sup>5</sup> 2,478
Massey-Ferguson 165 Standard Clearance 6-speed	896	52.42	1967	SRP NWP	4,943 3,608	5,574 4,069	5,024 3,366	4,268 3,373	5,829 3,789	4,563 3,468	4,150 3,362	3,917 3,173



TABLE B.1 (Concluded)

MASSEY-FERGUSON											
Massey-Ferguson 175 12-speed (177 in W. Germany)	897	63.34 <sup>8</sup>	1967	SRP NWP	6,716 4,903	6,519 4,759	3,685 3,022	5,332 <sup>10</sup> 4,212	6,965 4,527	5,491 4,173	4,828 <sup>5</sup> 3,911
Massey-Ferguson 1100 Row Crop 12-speed	923	93.94	1967	SRP NWP	8,947 6,531	8,839 6,452	10,397 8,526	11,404 7,641	11,056 <sup>5</sup> 8,403	10,512 8,515	

SRP — suggested retail price

NWP—net wholesale price

<sup>1</sup> Selling season is late 1966 to early (or first six months of) 1967.

<sup>2</sup> 1966 or 1967 selling seasons.

<sup>3</sup> 1967 selling season.

<sup>4</sup> 1966 selling season.

<sup>5</sup> 1968 selling season.

<sup>6</sup> SRP, as stated, includes tax on value added (TVA) amounting to 17 per cent of list price plus TVA.

<sup>7</sup> Tax on value added (TVA) of 17 per cent must also be deducted from the list price including TVA to arrive at the net wholesale price.

<sup>8</sup> From specification sheets, horsepower of foreign tractors is: MF 177 — Engine — 67 HP (D.I.N. at 2000 r.p.m.)

MF 178 — Engine — 72.5 HP, max. PTO — 69 HP.

<sup>9</sup> Both foreign tractors appear to be slightly higher in PTO horsepower than the MF 175 model.

<sup>10</sup> The J.D. 5010 has a maximum PTO horsepower of 121.1 from Nebraska test report 828.

<sup>11</sup> The dealer discounts taken from Table A.1 are industry averages for the major firms and do not apply universally to individual companies. For full discussion of the computations, see Appendix A.

Source: Detailed price comparison sheets prepared by Commission staff from manufacturers' price lists and specifications.

TABLE B.2.-TRACTOR SUGGESTED RETAIL PRICES, VARIOUS COUNTRIES, EUROPEAN BASED FIRMS,  
GENERALLY 1966 OR 1967 SELLING SEASON

(Canadian dollars)

Model	Nebraska Test No.	Max. PTO HP at Rated Engine r.p.m.	Selling Season	Canada	United States	Britain	France <sup>7</sup>	Italy	Federal Republic of Germany	Sweden	Australia	South Africa
Dealer discount (as % of SRP) <sup>9</sup>				27		18	16 <sup>8</sup>	21	35	24	19	19
BRITISH LEYLAND (NUFFIELD)												
Nuffield Deluxe 10/42 (3/45)	905	39.06	1966- 1967	SRP 2,734		2,703	4,864 <sup>4</sup>	3,657 <sup>1</sup>	4,828	4,146 <sup>2</sup>	3,863 <sup>1</sup>	3,478 <sup>1</sup>
				NWP		2,216	3,259	2,889	3,138	3,151	3,129	2,817
Nuffield Deluxe 10/60 (4/65)	907	55.36	1966- 1967	SRP 3,208		2,908	5,459 <sup>4</sup>	4,071 <sup>1</sup>	5,165	4,965 <sup>2</sup>	4,521 <sup>1</sup>	3,777 <sup>1</sup>
				NWP		2,385	3,658	3,216	3,357	3,773	3,662	3,059
DAVID BROWN												
David Brown 770 Selectamatic	945	32.12	1966	SRP 2,402		2,361	3,507	3,101	4,094 <sup>1</sup>		2,972	3,170 <sup>2</sup>
				NWP		1,936	2,350	2,450	2,661		2,407	2,568
David Brown 880 Selectamatic	946	42.29	1966	SRP 2,694		2,627	4,014	3,432	4,612 <sup>1</sup>	3,686	3,218	3,336 <sup>2</sup>
				NWP		2,154	2,689	2,711	2,998	2,801	2,607	2,702
David Brown 990 Selectamatic	903	51.60	1966	SRP 3,241		3,003	4,675	3,842	5,257 <sup>1</sup>	4,126	3,940	3,662 <sup>2</sup>
				NWP		2,462	3,132	3,035	3,417	3,136	3,191	2,966
DEUTZ												
Deutz D-4005 (C.C.I.L. D-40L in Canada)	5	35	1968	SRP 3,446					4,450 <sup>2</sup>	3,379 <sup>2</sup>		
				NWP					2,893	2,568		
Deutz D-5505 (C.C.I.L. D-5505 in Canada)	5	52	1968	SRP 5,278					5,597 <sup>2</sup>			
				NWP					3,638			
Deutz D-9005 (C.C.I.L. D-8005 in Canada)	5	80	1968	SRP 6,721					8,553 <sup>2</sup>	8,789		
				NWP					5,559	6,680		

TABLE B.2 (Continued)

## FIAT

Fiat 415 (Cockshutt 1250 in Canada, Oliver 1250 in United States, Someca 415 in France)	5	38.5	1966	SRP NWP	3,348 2,444	3,348 2,531	3,946 <sup>2</sup> 2,644	2,700 <sup>2</sup> 2,133	4,425 <sup>3</sup> 2,876	2,857 <sup>2</sup> 2,314	3,092 <sup>4</sup> 2,505
Fiat 615 Standard (Someca 615 in France)	5	54.0	1967	SRP NWP			4,571 3,063	3,424 2,705		3,875 3,139	4,205 <sup>4</sup> 3,406
Fiat 615 Automatic	5	54.0	1967	SRP <sup>10</sup> NWP				3,597 2,842	5,997 <sup>3</sup> 3,898		
Fiat 715 (Someca 715 in France)	5	68.0	1966	SRP NWP			5,394 <sup>2</sup> 3,614	4,165 <sup>2</sup> 3,290			
RENAULT											
Renault Super 7D	6	46 S.A.E.	1967	SRP NWP	3,455 2,522		3,754 2,515		5,536		
Renault Master 1	6	62 S.A.E.	1967	SRP NWP			4,941 3,310		5,536 3,598		
Renault Master 2	6	62 S.A.E.	1967	SRP NWP			4,700 3,149		5,294 3,441		
VOLVO											
Volvo 400	5	42.7	1968	SRP NWP			4,500 3,015		3,755 2,854		
Volvo 600	5	58	1968	SRP NWP			5,779 3,872		5,236 3,979		5,266 4,265
Volvo 800 (C.C.I.L. Viking in Canada)	5	90	1968	SRP NWP	9,396 6,859	7,767 6,369	10,665 7,146		8,173 6,211		7,998 6,478

(See footnotes on page 118.)

TABLE B.2 (Concluded)

SRP — suggested retail price

NWP — net wholesale price

1 1967 or 1968 selling season.

2 1967 selling season.

3 1966 and 1967 selling seasons.

4 1968 selling season.

5 Manufacturer's rating.

6 Manufacturer's rating for engine horsepower; since PTO horsepower is lower than engine horsepower the Super 7D has been placed in the under 45 PTO horsepower group while the Master 1 and 2 models have been shown in the 45-60 PTO horsepower group in other tables.

7 SRP as stated includes tax on value added (TVA) amounting to 17 per cent of list price plus TVA.

8 Tax on value added (TVA) of 17 per cent must also be deducted from the list price including TVA to arrive at the net wholesale price.

9 The dealer discounts taken from Table A.1 are industry averages for the major firms and do not apply universally to individual companies. For full discussion of the computations involved see Appendix A.

10 In 1968, Cockshutt marketed a model 1450 tractor, the Fiat 615 with Amplicouple transmission and different grille. Its SRP was \$5638 and NWP \$4116.

Source: Detailed price comparison sheets prepared by Commission staff from manufacturers' price lists and specifications.



TABLE B.3—TRACTOR SUGGESTED RETAIL PRICES, PRICE DIFFERENCES, PRICE RELATIVES<sup>1</sup>, VARIOUS COUNTRIES,  
NORTH AMERICAN BASED FIRMS, GENERALLY 1966 OR 1967 SELLING SEASON  
(Canadian dollars)

Model	Canada	United States	Britain	Under 45 PTO HP				Federal Republic of Germany	Sweden	Australia	South Africa
				France <sup>2</sup>	Italy	Japan	West Germany				
Deere 510											
SRP	3,350						4,385	3,557			
Higher/(lower) than Canada							1,035	207			
Price relative	100.0						130.9	106.2			
Ford 2000 8-speed											
SRP	3,313		2,492	3,260	2,736		3,930	2,694	3,017	2,764	
Higher/(lower) than Canada			(821)	(53)	(577)		617	(619)	(296)	(549)	
Price relative			75.2	98.5	82.6		118.6	81.3	91.1	83.4	
Ford 3000 10-speed											
SRP	3,880		3,005	4,181	3,417		4,914	3,472	3,567	3,521	
Higher/(lower) than Canada			(875)	301	(463)		1,034	(408)	(313)	(359)	
Price relative	100.0		77.4	107.8	88.1		126.6	89.5	91.9	90.7	
Ford 3000 8-speed											
SRP	3,480		2,509	3,617	2,834		4,563	3,055	3,187	3,040	
Higher/(lower) than Canada			(971)	137	(646)		1,083	(425)	(293)	(440)	
Price relative	100.0		72.1	103.9	81.4		131.1	87.8	91.6	87.4	
International 434											
SRP	3,398		2,604	3,790				3,472	3,256	3,423	
Higher/(lower) than Canada			(794)	392				74	(142)	25	
Price relative	100.0		76.6	11.5				102.2	95.8	100.7	
Massey-Ferguson 130 Deluxe											
SRP	2,849	3,074	2,077	2,985	2,530		3,563	2,795	2,695		
Higher/(lower) than Canada		225	(772)	136	(319)		714	(54)	(154)		
Price relative	100.0	107.9	72.9	104.8	88.8		125.1	98.1	94.6		



TABLE B.3 (Continued)

45-60 PTO HP									
Ford 5000 8-speed									
SRP	5,237	3,121	4,803	3,958	5,796	4,568	4,519	3,793	
Higher/(lower) than Canada		(2,116)	(434)	(1,279)	559	(669)	(718)	(1,444)	
Price relative	100.0	59.6	91.7	75.6	106.7	87.2	86.3	72.4	
Massey-Ferguson 165 Std. Clearance 6-speed									
SRP	4,943	5,574	3,137	5,024	4,268	5,829	4,563	4,150	3,917
Higher/(lower) than Canada		631	(1,806)	81	(675)	886	(380)	(793)	(1,026)
Price relative	100.0	112.8	63.5	101.6	86.4	117.9	92.3	84.0	79.2
Average <sup>4</sup>									
SRP	4,920	5,574	3,312	4,809	4,167	5,572	4,539	4,429	3,914
Higher/(lower) than Canada		631	(1,608)	(111)	(753)	652	(381)	(555)	(1,070)
Price relative	100.0	112.8	67.3	97.7	84.7	113.3	92.3	88.9	78.5
60-75 PTO HP									
Deere 3020 Row Crop									
SRP	7,076	7,076				8,148	6,135		
Higher/(lower) than Canada		0				1,072	(941)		
Price relative	100.0	100				115.1	86.7		
Massey-Ferguson 175 12-speed (177 in W. Germany, 178 in South Africa)									
SRP	6,716	6,519	3,685	5,332	6,965	5,491	4,828		
Higher/(lower) than Canada		(197)	(3,031)	(1,384)	249	(1,225)	(1,888)		
Price relative	100.0	97.1	54.9	79.4	103.7	81.8	71.9		
Average <sup>4</sup>									
SRP	6,896	6,798	3,685 <sup>3</sup>	5,332 <sup>3</sup>	6,965 <sup>3</sup>	6,820	5,482		
Higher/(lower) than Canada		(98)	(3,031)	(1,384)	249	(76)	(1,414)		
Price relative	100.0	98.6	54.9	79.4	103.7	98.9	79.5		





TABLE B.3 (Concluded)

		90-100 PTO HP (Continued)									
Massey-Ferguson 1100 R.C. 12-speed											
SRP		8,947	8,839	10,397	11,404					11,056	10,512
Higher/(lower) than Canada			(108)	1,450	2,457					2,109	1,565
Price relative		100.0	98.8	116.2	127.5					123.6	117.5
Average <sup>4</sup>											
SRP		8,683	8,710	9,778	11,404 <sup>3</sup>			9,909 <sup>3</sup>	10,214	9,709	8,160
Higher/(lower) than Canada			27	941	2,457			1,706	1,757	866	(43)
Price relative		100.0	100.3	110.6	127.4			120.8	120.8	109.8	99.5
Deere 5020 R.C. (5010 in Sweden)								Over 100 PTO HP <sup>3</sup>			
SRP		13,401	13,401	14,872	18,751			15,174	15,335		
Higher/(lower) than Canada			0	1,471	5,350			1,773	1,934		
Price relative		100.0	100.0	111.1	139.9			113.2	114.4		

<sup>1</sup> Canada = 100.<sup>2</sup> SRP as stated includes tax on value added (TVA) amounting to 17 per cent of list price plus TVA.<sup>3</sup> One tractor only.<sup>4</sup> Average differences (higher/(lower) than Canada) and price relatives were computed using only averages of prices for which there were comparable tractors sold in both Canada and the respective foreign country. Average suggested retail prices, on the other hand, were computed based on all tractors sold in each country.

Source: Table B.1.

TABLE B.4—TRACTOR SUGGESTED RETAIL PRICES, PRICE DIFFERENCES, PRICE RELATIVES,<sup>1</sup> VARIOUS COUNTRIES,  
EUROPEAN BASED FIRMS, GENERALLY 1966 OR 1967 SELLING SEASON

(Canadian dollars)

Model	Canada	United States	Britain	Federal Republic of Germany					Australia	South Africa
				France <sup>2</sup>	Italy	Germany	Sweden			
Under 45 PTO HP										
British Leyland (Nuffield) Deluxe 10/42										
	3,745		2,703 (1,042)	4,864	3,657 (88)	4,828	4,146	3,863	3,478	
Higher/(lower) than Canada				1,119		1,083	401	118	(267)	
Price relative	100.0		72.2	129.9	97.7	128.9	110.7	103.2	92.9	
David Brown 770 Selectamatic										
	3,290		2,361 (929)	3,507	3,101 (189)	4,094		2,972 (318)	3,170 (120)	
Higher/(lower) than Canada			71.8	106.6	94.3	124.4		90.3	96.4	
Price relative	100.0									
David Brown 880 Selectamatic										
	3,690		2,627 (1,063)	4,014	3,432 (258)	4,612	3,686	3,218	3,336	
Higher/(lower) than Canada			71.2	108.8	93.0	125.0	(4)	(472)	(354)	
Price relative	100.0						99.9	87.2	90.4	
Deutz D-4005 (C.C.I.L. D-40L in Canada)										
	4,720					4,450	3,379		3,336	
						(270)	(1,341)			
Higher/(lower) than Canada						94.3	71.6			
Price relative	100.0									
Fiat 415 (Cockshutt 1250 in Canada, Oliver 1250 in United States, Someca 415 in France)										
	3,348	3,467		3,946	2,700	4,425		2,857	3,092	
Higher/(lower) than Canada		119		598	(648)	1,077		(491)	(256)	
Price relative	100.0	103.6		117.9	80.6	132.2		85.3	92.4	

TABLE B.4 (Continued)

		<u>Under 45 PTO HP</u>			
Renault Super 7D					
SRP	3,455	3,754			
Higher/(lower) than Canada		299			
Price relative	100.0	108.6			
Volvo 400					
SRP		4,500	3,755		
<i>Average</i> <sup>4</sup>					
SRP	3,708	3,467 <sup>3</sup>	3,223	4,482	3,269
Higher/(lower) than Canada		119	(295)	723	(249)
Price relative	100.0	103.6	91.6	119.2	92.9
		<u>45-60 PTO HP</u>			
British Leyland (Nuffield) Deluxe 10/60 (4/65)					
SRP	4,395	2,908	5,459	4,071	5,165
Higher/(lower) than Canada		(1,487)	1,064	(324)	770
Price relative	100.0	66.2	124.2	92.6	117.5
David Brown 990 Selectamatic					
SRP	4,440	3,003	4,675	3,842	5,257
Higher/(lower) than Canada		(1,437)	235	(598)	817
Price relative	100.0	67.6	105.3	86.5	118.4
Deutz D-5505 (C.C.I.L. D-5505 in Canada)					
SRP	7,230				5,597
Higher/(lower) than Canada					(1,633)
Price relative	100.0				77.4

TABLE B.4 (Continued)

Model	Canada	United States	Britain	France <sup>2</sup>	Italy	Germany	Sweden	Australia	South Africa	
						45-60 PTO HP (Continued)				
Fiat 615 Standard (Someca 615 in France) SRP				4,571	3,424			3,875	4,205	
Fiat 615 Automatic SRP	5				3,597	5,997				
Renault Master 1 SRP				4,941		5,536				
Renault Master 2 SRP				4,700		5,294				
Volvo 600 SRP				5,779			5,236		5,266	
Average <sup>4</sup> SRP	5,355		2,955 (1,463)	5,021	3,734 (462)	5,474	4,776	4,112 (187)	4,228 (698)	
Higher/(lower) than Canada Price relative	100.0		66.9	114.7	89.6	99.7	102.9	95.8	84.2	
				60-75 PTO HP						
Fiat 715 (Someca 715 in France) <sup>3</sup> SRP				5,394	4,165					
				75-90 PTO HP						
Deutz D-9005 (C.C.I.L. D-8005 in Canada) SRP	9,207					8,553 (654)	8,789 (418)			
Higher/(lower) than Canada Price relative	100.0					92.9	95.5			



TABLE B.4 (Concluded)

Volvo 800 (C.C.I.L. Viking in Canada)		75-90 PTO HP (Continued)			
SRP Higher/(lower) than Canada Price relative	9,396	7,767 (1,629)	10,665 1,269	8,173 (1,223)	7,998 (1,398)
	100.0	82.7	113.5	87.0	85.1
Average <sup>4</sup>					
SRP Higher/(lower) than Canada Price relative	9,302	7,767 <sup>3</sup> (1,629)	10,665 <sup>3</sup> 1,269	8,553 <sup>3</sup> (654)	7,998 <sup>3</sup> (1,398)
	100.0	82.7	113.5	92.9	85.1

<sup>1</sup>Canada = 100.  
<sup>2</sup>SRP as stated includes tax on value added (TVA) amounting to 17 per cent of list price plus TVA.  
<sup>3</sup>One tractor only.  
<sup>4</sup>Average differences (higher/(lower) than Canada) and price relatives were computed using only average of prices for which there were comparable tractors sold in both Canada and the respective foreign country. Average suggested retail prices, on the other hand, were computed based on all tractors sold in each country.  
<sup>5</sup>In 1968, Cockshutt marketed a model 1450 tractor, the Fiat 615 with Amplicouple transmission and a different grille, at an SRP of \$5638. This price is not included in the group averages.  
Source: Table B.2.



TABLE B.5 (Continued)

Under 45 PTO HP (Continued)										
Massey-Ferguson 130 Deluxe	Net wholesale price	2,080	2,244	1,703	2,000	1,999	2,316	2,124	2,183	
	Higher/(lower) than Canada		164	(377)	(80)	(81)	236	44	103	
	Price relative	100.0	107.9	81.9	96.2	96.1	111.3	102.1	105.0	
Massey-Ferguson 135 Deluxe	Net wholesale price	2,570	2,900	2,011	2,365	2,825	2,477	2,784	2,478	
	Higher/(lower) than Canada		330	(559)	(205)	255	(93)	214	(92)	
	Price relative	100.0	112.8	78.2	92.0	109.9	96.4	108.3	96.4	
Average <sup>s</sup>										
Massey-Ferguson 130 Deluxe	Net wholesale price	2,481	2,572	2,069	2,389	2,293	2,784	2,422	2,587	2,561
	Higher/(lower) than Canada		247	(418)	(81)	(195)	303	(59)	100	(7)
	Price relative	100.0	110.6	83.2	96.7	92.2	112.2	97.6	104.0	99.7
45-60 PTO HP										
Deere 710	Net wholesale price	3,358	2,918	3,072	3,504	3,340	3,552	3,645	3,290	
	Higher/(lower) than Canada		(440)	(286)	146	(18)	194	145	(210)	
	Price relative	100.0	86.9	91.5	104.3	99.5	105.8	96.4	94.1	
Ford 4000 10-speed	Net wholesale price	3,500	2,874	3,260	3,338	3,597	3,374	3,645	3,290	
	Higher/(lower) than Canada		(626)	(240)	(162)	97	(126)	145	(210)	
	Price relative	100.0	82.1	93.1	95.4	102.8	96.4	104.1	94.1	
Ford 4000 8-speed	Net wholesale price	3,147	2,405	2,921	2,902	3,294	2,992	3,221	2,819	
	Higher/(lower) than Canada		(742)	(226)	(245)	147	(155)	74	(328)	
	Price relative	100.0	76.4	92.8	92.2	104.7	95.1	102.4	89.6	
Ford 5000 10-speed	Net wholesale price	4,115	2,968	3,495	3,508	3,942	3,840	4,050	3,499	
	Higher/(lower) than Canada		(1,147)	(620)	(607)	(173)	(275)	(65)	(616)	
	Price relative	100.0	72.1	84.9	85.3	95.8	93.3	98.4	85.0	

TABLE B.5 (Continued)

Model	Canada	United States	Britain	France	Italy	Federal Republic of Germany			South Africa
						Germany	Sweden	Australia	
45-60 PTO HP (Continued)									
Ford 5000 8-speed									
Net wholesale price	3,823		2,559	3,218	3,127	3,767	3,472	3,660	3,072
Higher/(lower) than Canada			(1,264)	(605)	(696)	(56)	(351)	(163)	(751)
Price relative	100.0		66.9	84.2	81.8	98.5	90.8	95.7	80.4
Massey-Ferguson 165 Std. Clearance 6-speed									
Net wholesale price	3,608	4,069	2,572	3,366	3,373	3,789	3,468	3,362	3,173
Higher/(lower) than Canada		461	(1,036)	(242)	(235)	181	(140)	(246)	(435)
Price relative	100.0	112.8	71.3	93.3	93.5	105.0	96.1	93.2	87.9
Average <sup>5</sup>									
Net wholesale price	3,592	4,069 <sup>3</sup>	2,716	3,222	3,292	3,622	3,450	3,588	3,171
Higher/(lower) than Canada		461	(876)	(370)	(300)	30	(142)	(51)	(468)
Price relative	100.0	112.8	75.6	89.7	91.6	100.8	96.0	98.0	87.1
60-75 PTO HP									
Deere 3020 Row Crop									
Net wholesale price	5,165	5,165					6,193		4,969
Higher/(lower) than Canada		0					1,028		(196)
Price relative	100.0	100					119.9		96.2
Massey-Ferguson 175 12-speed									
(177 in West Germany, 178 in South Africa)									
Net wholesale price	4,903	4,759	3,022		4,212	4,527	4,173		3,911
Higher/(lower) than Canada		144	(1,881)		(691)	(376)	(730)		(992)
Price relative	100.0	97.1	61.6		85.9	92.3	85.1		79.8
Average <sup>5</sup>									
Net wholesale price	5,034	4,962	3,022 <sup>3</sup>		4,212 <sup>3</sup>	4,527 <sup>3</sup>	5,183		4,440
Higher/(lower) than Canada		(72)	(1,881)		(691)	(376)	149		(594)
Price relative	100.0	98.6	61.6		85.9	92.3	103.0		88.2



TABLE B.5 (Continued)

	75-90 PTO HP			
International 706				
Net wholesale price	6,137	6,213	7,986	6,121
Higher/(lower) than Canada		76	1,849	(16)
Price relative	100.0	101.2	130.1	99.7
Farmall 706				
Net wholesale price	6,288	6,369		6,963
Higher/(lower) than Canada		81		675
Price relative	100.0	101.3		110.7
Average <sup>5</sup>				
Net wholesale price	6,213	6,291	7,986 <sup>3</sup>	6,542
Higher/(lower) than Canada		78	1,849	329
Price relative	100.0	101.3	130.1	105.3
				90-100 PTO HP
Deere 4020 Row Crop				
Net wholesale price	5,988	5,988	7,081	6,441
Higher/(lower) than Canada		0	1,093	453
Price relative	100.0	100	118.3	107.6
				7,754
International 806				622
Net wholesale price	6,834	6,918	8,447	110.4
Higher/(lower) than Canada		84	1,613	
Price relative	100.0	101.2	123.6	
Farmall 806				
Net wholesale price	6,001	6,074		7,818
Higher/(lower) than Canada		73		984
Price relative	100.0	101.2		114.4
				7,131
Massey-Ferguson 1100, Row Crop 12-speed				7,259
Net wholesale price	6,531	6,452	8,526	1,130
Higher/(lower) than Canada		(79)	1,995	1,258
Price relative	100.0	98.8	130.5	118.8
				121.0
				8,403
				1,872
				1,984
				128.7
				130.4

TABLE B.5 (Concluded)

Model	Federal Republic of Germany						South Africa	
	Canada	United States	Britain	France	Italy	Sweden	Australia	
90-100 PTO HP (Continued)								
<i>Average</i> <sup>5</sup>								
Net wholesale price	6,339	6,358	8,018	7,641 <sup>3</sup>		6,441 <sup>3</sup>	7,763	6,610 <sup>3</sup>
Higher/(lower) than Canada		19	1,567	1,110		453	1,590	622
Price relative	100.0	100.3	124.3	117.0		107.6	125.8	110.4
Over 100 PTO HP								
Deere 5020 Row Crop (5010 in Sweden)								
Net wholesale price	9,783	9,783	12,195	12,563		9,863	11,655	
Higher/(lower) than Canada		0	2,412	2,780		80	1,872	
Price relative	100.0	100	124.7	128.4		100.8	119.1	

<sup>1</sup>Canada = 100.<sup>2</sup>Tax on value added (TVA) of 17 per cent must also be deducted from the list price including TVA to arrive at the net wholesale price.<sup>3</sup>One tractor only.<sup>4</sup>Dealer discounts taken from Table A.1 are industry averages for the major firms and do not apply universally to individual companies. For full discussion of the computations involved see Appendix A.<sup>5</sup>Average differences (higher/(lower) than Canada) were computed using only averages of prices for which there were comparable tractors sold in both Canada and the respective foreign country. Average net wholesale prices, on the other hand, were computed based on all tractors sold in each country.

Source: Table B.1.

TABLE B.6—TRACTOR NET WHOLESALE PRICES, PRICE DIFFERENCES, PRICE RELATIVES,<sup>1</sup> VARIOUS COUNTRIES,  
EUROPEAN BASED FIRMS, GENERALLY 1966 OR 1967 SELLING SEASON  
(Canadian dollars)

Model	Canada	United States	Britain	France	Italy	Federal Republic of Germany	Sweden	Australia	South Africa
Dealer discount (as % of SRP) <sup>4</sup>	27	27	18	16 <sup>2</sup>	21	35	24	19	19
	Under 45 PTO HP								
British Leyland (Nuffield) Deluxe 10/42									
Net wholesale price	2,734		2,216	3,259	2,889	3,138	3,151	3,129	2,817
Higher/(lower) than Canada			(518)	525	155	404	417	395	83
Price relative	100.0		81.0	119.2	105.7	114.8	115.2	114.4	103.0
David Brown 770 Selectamatic									
Net wholesale price	2,402		1,936	2,350	2,450	2,661		2,407	2,568
Higher/(lower) than Canada			(466)	(52)	48	259		5	166
Price relative	100.0		80.6	97.8	102.0	110.8		100.2	106.9
David Brown 880 Selectamatic									
Net wholesale price	2,694		2,154	2,689	2,711	2,998	2,801	2,607	2,702
Higher/(lower) than Canada			(540)	(5)	17	304	107	(87)	8
Price relative	100.0		80.0	99.8	100.6	111.3	104.0	96.8	100.3
Deutz D-4005 (C.C.I.L. D-40L in Canada)									
Net wholesale price	3,446					2,893	2,568		
Higher/(lower) than Canada						(553)	(878)		
Price relative	100.0					84.0	74.5		
Fiat 415 (Cockshutt 1250 in Canada, Oliver 1250 in United States, Someca 415 in France)									
Net wholesale price	2,444	2,531		2,644	2,133	2,876		2,314	2,505
Higher/(lower) than Canada		87		200	(311)	432		(130)	61
Price relative	100.0	103.6		108.2	87.3	117.7		94.7	102.5

TABLE B.6 (Continued)

Model	Canada	United States	Britain	France	Italy	Federal Republic of Germany			Australia	South Africa	
						Germany	Sweden				
Under 45 PTO HP (Continued)											
Renault Super 7D											
Net wholesale price	2,522			2,515							
Higher/(lower) than Canada				(7)							
Price relative	100.0			99.7							
Volvo 400											
Net wholesale price				3,015			2,854				
Average <sup>5</sup>											
Net wholesale price	2,707	2,531 <sup>3</sup>	2,102	2,745	2,546	2,913	2,843	2,614	2,648		
Higher/(lower) than Canada		87	(508)	132	(23)	169	(118)	45	79		
Price relative	100.0	103.6	80.5	105.2	99.1	106.2	96.0	101.8	103.1		
45-60 PTO HP											
British Leyland (Nuffield)											
Deluxe 10/60 (4/65)											
Net wholesale price	3,208		2,385	3,658	3,216	3,357	3,773	3,662	3,059		
Higher/(lower) than Canada			(823)	450	8	149	565	454	(149)		
Price relative	100.0		74.3	114.0	100.2	104.2	117.6	114.1	95.4		
David Brown 990 Selectamatic											
Net wholesale price	3,241		2,462	3,132	3,035	3,417	3,136	3,191	2,966		
Higher/(lower) than Canada			(779)	(109)	(206)	176	105	(50)	(275)		
Price relative	100.0		76.0	96.6	93.6	105.4	96.8	98.5	91.5		
Deutz D-5505 (C.C.I.L. D-5505 in Canada)											
Net wholesale price	5,278					3,638					
Higher/(lower) than Canada						(1,640)					
Price relative	100.0					68.9					
Fiat 615 Standard (Someca 615 in France)											
Net wholesale price				3,063	2,705			3,139	3,406		



TABLE B.6 (Continued)

	45-60 PTO HP (Continued)			
	6	2,842	3,898	
Fiat 615 Automatic				
Net wholesale price				
Renault Master 1				
Net wholesale price		3,310	3,598	
Renault Master 2				
Net wholesale price		3,149	3,441	
Volvo 600				
Net wholesale price		3,872	3,979	4,265
<i>Average</i> <sup>5</sup>				
Net wholesale price				
Higher/(lower) than Canada		3,364	3,558	3,331
Price relative	3,909	(801)	(438)	202
	100.0	75.2	96.9	106.3
		60-75 PTO HP		
Fiat 715 (Someca 715 in France) <sup>3</sup>				
Net wholesale price		3,614	3,290	
		75-90 PTO HP		
Deutz D-9005 (C.C.I.L. D-8005 in Canada)				
Net wholesale price	6,721		5,559	6,680
Higher/(lower) than Canada			(1,162)	(41)
Price relative	100.0		82.7	99.4
Volvo 800 (C.C.I.L. Viking in Canada)				
Net wholesale price	6,859	6,369	7,146	6,478
Higher/(lower) than Canada		(490)	287	(381)
Price relative	100.0	92.9	104.2	94.4
<i>Average</i> <sup>5</sup>				
Net wholesale price	6,790	6,369 <sup>3</sup>	7,146 <sup>3</sup>	6,478 <sup>3</sup>
Higher/(lower) than Canada		(490)	287	(381)
Price relative	100.0	92.9	104.2	94.4

(See footnotes on page 136.)

TABLE B.6 (Concluded)

<sup>1</sup> Canada = 100

<sup>2</sup> Tax on value added (TVA) of 17% must also be deducted from the list price including TVA to arrive at the net wholesale price.

<sup>3</sup> One tractor only.

<sup>4</sup> Dealer discounts taken from Table A.1 are industry averages for the major firms and do not apply universally to individual companies. For full discussion of the computations involved see Appendix A.

<sup>5</sup> Average differences (higher/lower) than Canada) were computed using only averages of prices for which there were comparable tractors sold in both Canada and the respective foreign country. Average net wholesale prices, on the other hand, were computed based on all tractors sold in each country.

<sup>6</sup> In 1968, Cockshutt marketed a model 1450 tractor, the Fiat 615 with Amplicouple transmission and a different grille, at an NWP of \$4116. This price is not included in the group averages.

Source: Table B.2.

TABLE B.7--COMBINE SUGGESTED RETAIL PRICES, PRICE DIFFERENCES, PRICE RELATIVES,<sup>1</sup> VARIOUS COUNTRIES,  
GENERALLY 1966 OR 1967 SELLING SEASON  
(Canadian dollars)

Model	Engine HP of North American Models*	Selling Season	Canada	United States	Britain	France <sup>10</sup>	Italy	Federal Republic of Germany	Australia	South Africa
CLAAS										
Claas Columbus	27G <sup>6</sup>	1966	5,380		5,186 (194)			6,909 <sup>2</sup> (471) 91.2		
SRP Higher/(lower) than Canada Price relative			100.0		96.4					
Claas Europa	45D	1966	7,175		6,059 (1,116)			5,758 <sup>2</sup> (1,417) 80.2		
SRP Higher/(lower) than Canada Price relative			100.0		84.4					
Claas Mercury	52D	1966	9,065		6,742 (2,323)			6,809 <sup>2</sup> (2,256) 75.1		
SRP Higher/(lower) than Canada Price relative			100.0		74.4					
Claas Matador	87D	1966	12,240		9,488 (2,752)			9,513 <sup>2</sup> (2,727) 77.7		
SRP Higher/(lower) than Canada Price relative			100.0		77.5					
JOHN DEERE										
Deere 330 (40 in Canada and United States)	42G <sup>7</sup>	1967	5,993	6,087 94		6,371 378		5,691 (302) 95.0		
SRP Higher/(lower) than Canada Price relative			100.0	101.6		106.3				
Deere 430 (45 in Canada and United States)	59G <sup>7</sup>	1967	8,162	8,291 129	6,565 (1,597)	8,077 (85)		6,813 (1,349) 83.5		
SRP Higher/(lower) than Canada Price relative			100.0	101.6	80.4	99.0				

TABLE B.7 (Continued)

Model	Engine HP of North American Models*	Selling Season	Canada	United States	Britain	France <sup>10</sup>	Italy	Federal Republic of Germany	Sweden	Australia	South Africa
<b>JOHN DEERE</b>											
Deere 630 (95 in Canada and United States)	90D <sup>7</sup>	1967	12,706	12,910	9,644	12,161		10,166			12,282
SRP								(2,594)			(424)
Higher/(lower) than Canada				204	(3,062)	(545)		80.0			96.7
Price relative			100.0	101.6	75.9	95.7					
Deere 730 (105 in Canada and United States)	100D <sup>7</sup>	1967	15,097	15,345	12,275	13,535		12,499			
SRP								(2,598)			
Higher/(lower) than Canada				248	(2,822)	(1,562)		82.5			
Price relative			100.0	101.6	81.3	89.7					
<b>INTERNATIONAL HARVESTER</b>											
International Harvester 8-41	58/60D	1966			7,645				9,324 <sup>5</sup>		
<b>MASSEY-FERGUSON</b>											
Massey-Ferguson 87 (300 in Canada, South Africa and the United States, 788 in Britain)	73D <sup>8</sup>	1967	8,679	9,226	6,529 <sup>3</sup>		7,899	6,856	8,248 <sup>4</sup>		10,287 <sup>5</sup>
SRP								(1,823)	(431)		1,608
Higher/(lower) than Canada				547	(2,150)		(780)	79.0	95.0		118.5
Price relative			100.0	106.3	75.2		91.0				
Massey-Ferguson 410 (400 in Sweden)	80D <sup>9</sup>	1967	10,975	11,334	8,184		10,596	10,074	12,344 <sup>5</sup>		
SRP								(901)			1,369
Higher/(lower) than Canada				359	(2,791)		(379)	91.8			112.5
Price relative			100.0	103.3	74.6		96.5				
Massey-Ferguson 510	105G	1967	12,828		9,720	12,764	13,041	11,314	12,763	15,077	
SRP								(1,514)	(65)		2,249
Higher/(lower) than Canada					(3,108)	(64)	213	88.2	99.5	117.5	
Price relative			100.0		75.8	99.5	101.7				



TABLE B.7 (Concluded)

- \* G — Gas; D — Diesel.
  - 1 Canada = 100.
  - 2 1967 selling season.
  - 3 1966 selling season.
  - 4 1967 or 1968 selling season.
  - 5 1968 selling season.
  - 6 34 HP diesel in Britain.
  - 7 On Deere's foreign combines diesel engines are standard. The horsepower ratings are as follows: Model 330 — 46 HP; Model 430 — 64 HP; Model 630 — 96 HP; Model 730 — 115 HP. The 330 and 430 basic models were adjusted by deducting diesel engine option prices to make them comparable to the North American gas models. Diesel engine option prices were added to the North American 95 and 105 combines to make them comparable to the standard foreign models (630 and 730 respectively).
  - 8 67 HP diesel in Sweden.
  - 9 62 HP diesel in Britain.
  - 9 94 HP diesel in Sweden.
  - 10 SRP as stated includes tax on value added (TVA) amounting to 17 per cent of list price plus TVA.
- Source: Detailed price comparison sheets prepared by Commission staff from manufacturers' price lists and specifications.

TABLE B.8—COMBINE NET WHOLESALE PRICES, PRICE DIFFERENCES, PRICE RELATIVES,<sup>1</sup> VARIOUS COUNTRIES,  
GENERALLY 1966 OR 1967 SELLING SEASON

(Canadian dollars)

Model	Engine of North American Models*	Canada	United States	Britain	France <sup>10</sup>	Italy	Federal Republic of Germany	Australia	South Africa
Dealer discount (as % of SRP) <sup>11</sup>	27	27	18	16	21	35	35	24	19
CLAAS									
Claas Columbus	27G <sup>6</sup>	3,927		4,253			3,191 <sup>2</sup>		
Net wholesale price				326			(736)		
Higher/(lower) than Canada				108.3			81.3		
Price relative		100.0							
Claas Europa	45D	5,238		4,968			3,743 <sup>2</sup>		
Net wholesale price				(270)			(1,495)		
Higher/(lower) than Canada				94.8			71.5		
Price relative		100.0							
Claas Mercury	52D	6,618		5,528			4,426 <sup>2</sup>		
Net wholesale price				(1,090)			(2,192)		
Higher/(lower) than Canada				83.5			66.9		
Price relative		100.0							
Claas Matador	87D	8,935		7,780			6,184 <sup>2</sup>		
Net wholesale price				(1,155)			(2,751)		
Higher/(lower) than Canada				87.1			69.2		
Price relative		100.0							
JOHN DEERE									
Deere 330 (40 in Canada and United States)	42G <sup>7</sup>	4,375	4,444		4,269		3,699		
Net wholesale price			69		(106)		(676)		
Higher/(lower) than Canada			101.6		97.6		84.5		
Price relative		100.0							

TABLE B.8 (Continued)

<b>JOHN DEERE</b>									
Deere 430 (45 in Canada and United States)									
Net wholesale price	59G <sup>7</sup>	5,958	6,052	5,383	5,412	4,429			
Higher/(lower) than Canada			94	(575)	(546)	(1,529)			
Price relative		100.0	101.6	90.3	90.8	74.3			
Deere 630 (95 in Canada and United States)									
Net wholesale price	90D <sup>7</sup>	9,275	9,424	7,908	8,148	6,608			
Higher/(lower) than Canada			149	(1,367)	(1,127)	(2,667)			
Price relative		100.0	101.6	85.3	87.8	71.2			
Deere 730 (105 in Canada and United States)									
Net wholesale price	100D <sup>7</sup>	11,021	11,202	10,066	9,069	8,124			9,948
Higher/(lower) than Canada			181	(955)	(1,952)	(2,897)			(1,073)
Price relative		100.0	101.6	91.3	82.3	73.7			90.3
<b>INTERNATIONAL HARVESTER</b>									
International Harvester 8-41	58/60D			6,269				7,086 <sup>5</sup>	
<b>MASSEY-FERGUSON</b>									
Massey-Ferguson 87 (300 in Canada, South Africa and the United States, 788 in Britain)									
Net wholesale price	73D <sup>8</sup>	6,336	6,735	5,354 <sup>3</sup>		6,240	4,456	6,269 <sup>4</sup>	8,333 <sup>5</sup>
Higher/(lower) than Canada			399	(982)		(96)	(1,880)	(67)	1,997
Price relative		100.0	106.3	84.5		98.5	70.3	98.9	131.5
Massey-Ferguson 410 (400 in Sweden)									
Net wholesale price	80D <sup>9</sup>	8,012	8,274	6,711		8,371		7,656	9,999 <sup>5</sup>
Higher/(lower) than Canada			262	(1,301)		359		(356)	1,987
Price relative		100.0	103.3	83.8		104.5		95.6	124.8
Massey-Ferguson 510									
Net wholesale price	105G	9,364		7,970	8,552	10,302	7,354	9,700	12,212
Higher/(lower) than Canada				(1,394)	(812)	938	(2,010)	336	2,848
Price relative		100.0		85.1	91.3	110.0	78.5	103.6	130.4

(See footnotes on page 142.)

TABLE B.8 (Concluded)

\* G — Gas; D — Diesel.

<sup>1</sup> Canada = 100.

<sup>2</sup> 1967 selling season.

<sup>3</sup> 1966 selling season.

<sup>4</sup> 1967 or 1968 selling season.

<sup>5</sup> 1968 selling season.

<sup>6</sup> 34 HP diesel in Britain.

<sup>7</sup> On Deere's foreign combines diesel engines are standard. The horsepower ratings are as follows: Model 330 — 46 HP; Model 430 — 64 HP; Model 630 — 96 HP; Model 730 — 115 HP. The 330 and 430 basic models were adjusted by deducting diesel engine option prices to make them comparable to the North American gas models. Diesel engine option prices were added to the North American 95 and 105 combines to make them comparable to the standard foreign models (630 and 730 respectively).

<sup>8</sup> 67 HP diesel in Sweden.

<sup>9</sup> 62 HP diesel in Britain.

<sup>10</sup> 94 HP diesel in Sweden.

<sup>11</sup> Tax on value added (TVA) of 17 per cent must also be deducted from the list price including TVA to arrive at the net wholesale price.

<sup>12</sup> Dealer discounts taken from Table A.1 are industry averages for the major firms and do not apply universally to individual companies. For full discussion of the computations involved, see Appendix A.

Source: Net wholesale prices calculated from suggested retail prices in Table B.7.



## Appendix C

### METHODS FOLLOWED IN PREPARING INTER-COMPANY PRICE COMPARISONS FOR TRACTORS AND COMBINES SOLD IN CANADA

For tractors, price comparisons were made for seven different horsepower groupings ranging from 30 to 135 PTO horsepower, based on the Nebraska tractor tests.<sup>1</sup> An attempt was made to make the tractors within each group substantially equivalent in terms of options and special equipment. The particular options included are outlined in detail in Table C.1. An exact equivalence in prices was not possible because some options were not available for some makes or models. Where a given make or model of tractor did not offer the required option, it was necessary to substitute an average or estimated price for the option, using data for other companies that did offer such an option. For this reason the resulting prices may in some cases not be comparable to any particular tractor sold by the company in question. Nevertheless, it is believed that this method of comparison provides a valid basis for comparing the prices of the different tractors offered in each group.

When comparisons are made between different horsepower groups it is necessary to recognize that the specifications are not identical from one group to the next. For example, power steering is not needed on a 40 horsepower tractor but it becomes essential on a very large tractor. This raises the question of whether a comparison of the price per horsepower throughout the range of tractor sizes should be made on the basis of an identical range of options or on the basis of those options needed to produce an equivalent performance at each horsepower level. There is no completely satisfactory answer to this question. In one of the comparisons provided in Chapter 5 an addition was made to the cost per horsepower in the lowest horsepower group to provide for the cost of adding power steering and "on the go shift". But one could well question whether this was strictly necessary.

Some indication of the different options that are typically provided at different horsepower levels is shown in Table C.2 which gives the options either available or included as standard equipment on different model John Deere tractors in 1967.

---

<sup>1</sup>The tractor tests at Lincoln, Nebraska, were first carried out in 1920 in accordance with a recently enacted state law. Its provisions are summarized from Bulletin 397 (1950) issued by the University of Nebraska:

That a stock tractor of each model sold in the state shall be tested and passed upon by a board of three engineers under State University management.

That each company, dealer or individual offering a tractor for sale in Nebraska shall have a permit issued by the State Railway Commission. The permit for any model of tractor will be issued after a stock tractor of that model has been tested at the University and the performance of the tractor compared with the claims made for it by the manufacturer.

The Nebraska texts have inspired other countries to set up similar testing agencies and the tractor test procedure of the Organization for Economic Co-operation and Development closely follows Nebraska procedures.

TABLE C.1—JOHN DEERE TRACTORS, 1967 OPTION PRICE COMPARISON

	1920 RU	2020 RU	3020 Standard	4020 Standard	5020 Standard
Horsepower (Maximum PTO Nebraska Test)	38.92	54.09	65.28	94.88	133.25
Differential lock	\$29.50	\$31.75	Power \$104.25	Power \$115.75	Power \$144.75
Deluxe seat	\$48.00	\$51.75	in base price	in base price	in base price
Lights	\$35.00	\$37.75	in base price	in base price	in base price
Power steering	\$130.00	\$140.50	in base price	in base price	in base price
3-point hitch	Cat.I \$115.00	Cat.II \$117.25	Cat.II \$194.50	Cat.II \$232.25	\$999.00
Rockshaft	(with sway blocks)	(with sway blocks)			(with Quik coupler)
	\$155.00	\$167.50	\$275.50	\$309.00	included in
					\$999.00(above)
Hydraulic pump	\$146.00	\$157.75	in base price	in base price	in base price
Live PTO	6.5 U.S. gpm	6.5 U.S. gpm	20 U.S. gpm	22 U.S. gpm	22 U.S. gpm
	\$180.00	\$194.50	\$196.50	\$205.25	\$219.25
	540 r.p.m.	540 r.p.m.	1000 r.p.m.	1000 r.p.m.	1000 r.p.m.
Adjustable front axle	(one position)	(one position)	(two positions)	(two positions)	(one position)
Synchro-range transmission	in base price	in base price	\$101.50	\$101.50	\$145.75
Swinging drawbar	not available	not available	in base price	in base price	in base price
Power adjust rear tread	\$23.00	\$23.00	in base price	in base price	in base price
	\$139.50	\$118.75	not available	not available	not available
	with 13.6x28,	with 13.6x28,			
	4-ply R1 tires	4-ply R1 tires			
Base tractor suggested retail price	Diesel \$2,995.00	Diesel \$4,550.00	Diesel \$6,350.50	Diesel \$7,547.00	Diesel \$11,178.00

Source: Price List, John Deere Limited, Canada, November 1, 1966.

TABLE C.2—MAJOR TRACTOR OPTIONS INCLUDED OR EXCLUDED IN 1967 TRACTOR GROUPINGS SELECTED

	GROUP 1	GROUP 2	GROUP 3	Row	Utility
	35 - 45 PTO HP	45 - 60 PTO HP	60 - 75 PTO HP	Crop	
Engine	Diesel or gas	Diesel	Diesel		
Air cleaner	Std. unit - dry or oil bath	Std. unit - dry or oil bath	Std. unit - dry or oil bath		
Muffler	Std. unit - vertical or underslung	Std. unit - vertical or underslung	Std. unit - vertical or underslung		
Steering	Man. (Deduct \$191.87 <sup>1</sup> - if power std.)	Power included where not stand-ard	Power included where not stand-ard		
Front axle	Std. unit - adjustable over some range	Std. unit - adjustable over some range	Std. unit - adjustable over some range		
Differential lock	Not included	Std. If not available, add \$60. <sup>3</sup>	- fixed		
Rear wheel tread adjustment	Power adjust removed at companies allowances	Power adjust std. If not available, add \$89. <sup>3</sup>	Not included. If std., deduct \$60. <sup>3</sup>		
Tire size	12.4 x 20 or closest size	14.9 x 28, 6-ply or closest size	Not std. If std., deduct \$90. <sup>3</sup>		
Fenders	Std. unit	Std. (Deduct \$25 <sup>3</sup> for "crown" type, \$40 <sup>3</sup> for "crown" type with lights)	Std. If not available, add \$90. <sup>3</sup>		
			15.5 x 38, 6-ply or closest size		
			"Crown" type fenders with integral lights (if regular fenders, add \$70 if "crown" type with no lights, add \$30.)		
			Regular fenders, non-integral lights (if "crown" type, deduct \$70.)		
Lights	Std. unit	Std. unit	Std. unit		
Seat	Deluxe seat included	Deluxe seat included. If not available, add \$45. <sup>3</sup>	Deluxe seat included		
Transmission	Manual (Deduct \$250 <sup>1</sup> if "on-the-go-shift" std.)	Available, add \$250. <sup>3</sup>	"On-the-go-shift" std. If not available add \$260. <sup>3</sup>		
Brakes	Std. unit - mechanical in all cases	Std. unit, 1 power, 12 mechanical	Std. unit, 2 power, 5 mechanical		
Power take-off (PTO) <sup>2</sup>	Ind. PTO std. If not available and live PTO std., add \$30 <sup>3</sup> if transmission PTO std., add \$100. <sup>3</sup>	Ind. PTO std. If not available and live PTO std., add \$30 <sup>3</sup> if transmission PTO std., add \$100. <sup>3</sup>	Ind. PTO std. If not available and live PTO std., add \$35 <sup>3</sup> if transmission PTO std., add \$115. <sup>3</sup>		
Hitch	3-point hitch, draft & height control	3-point hitch, draft & height control	3-point hitch, draft & height control		
Drawbar	Swinging	Swinging	Swinging		
Hydraulics	Pump, no remote hydraulic circuits	Pump, no remote hydraulic circuits	Pump, 2 remote hydraulic circuits, with breakaway couplers. If not available, add \$20. <sup>3</sup>		

TABLE C.2 (Continued)

	GROUP 4		GROUP 5		
	75 — 90 PTO HP	Row Crop	Western	90 — 100 PTO HP	
				Row Crop	
Engine	Diesel	x	x	Diesel (straight or supercharged)	x
Air cleaner	Std. unit — dry or oil batch	x	x	Std. unit — dry or oil batch	x
Muffler	Std. unit —vertical or underslung	x	x	Std. unit — vertical or underslung. If not available, add \$20. <sup>3</sup>	x
Steering	Standard	x	x	Standard	x
Front axle	Std. unit — adjustable over some range	x		Std. unit — adjustable over some range	x
	— fixed		x	— fixed	
Differential lock	Not included	x	x	Not included	x
Rear wheel tread adjustment	Std. If not available, add \$80. <sup>3</sup>	x		Std. If not available, add \$100. <sup>3</sup>	x
Tire size	Not included		x	Not included. If std., deduct \$100. <sup>3</sup>	
Tire size	15.5 × 38, 8-ply or closest size	x		18.4 × 34, 6-ply or closest size	x
	23.1 × 30, 8-ply				x
Fenders	Deluxe “crown” type used. Where not available, add \$70.	x		Deluxe “crown” type used. If regular, add \$70.	
	Full-coverage fenders. If regular add \$120. <sup>3</sup>		x	Full-coverage fenders. If regular add \$120. <sup>3</sup>	x
Lights	Std. unit	x	x	Std. unit	x
Seat	Deluxe seat included	x	x	Deluxe seat included	x
Transmission	“On-the-go-shift” std. If not available, add \$350. <sup>3</sup>			“On-the-go-shift-within-the-range” std. If not available, add \$350. <sup>3</sup>	
Brakes	Std. unit, 1 power, 3 mechanical	x	x	Std. unit, 5 power, 3 mechanical	x
Power take-off (PTO) <sup>2</sup>	Ind. PTO std. If not available and live PTO std., add \$35 <sup>3</sup>	x		Ind. PTO std. If not available and live PTO std., add \$40 <sup>3</sup>	x
	if transmission PTO std. add \$120. <sup>3</sup>		x	if transmission PTO std. add \$130. <sup>3</sup>	x
Hitch	3-point hitch, draft & height con- trol			3-point hitch, draft & height con- trol	
	No 3-point hitch	x	x	No 3-point hitch (i.e., no rockshaft)	x
Drawbar	Regular swinging			Regular swinging	
	Heavy-duty wide swinging	x	x	Heavy-duty wide swinging	x
Hydraulics	Pump, 2 remote hydraulic circuits with breakaway couplers. If not available add \$20.			Pump, 2 remote hydraulic circuits with breakaway couplers. If not available, add \$20. <sup>3</sup>	
		x	x		x



TABLE C.2 (Concluded)

GROUP 6				GROUP 7			
	100 - 115 PTO HP	Row Crop	Western		115 - 135 PTO HP	Row Crop	Western
Engine	Diesel (straight or supercharged)	x	x	Diesel (straight or supercharged)		x	x
Air cleaner	Std. unit - dry or oil bath	x	x	Std. unit - dry or oil bath		x	x
Muffler	Std. unit - vertical or underslung, if not available, add \$20. <sup>3</sup>	x	x	Std. unit - vertical or underslung, if not available, add \$20. <sup>3</sup>		x	x
Steering	Standard	x	x	Standard		x	x
Front axle	Std. unit - adjustable over some range - fixed	x	x	Std. unit - adjustable over some range - fixed		x	x
Differential lock	Not included	x	x	Not included		x	x
Rear wheel tread adjustment	Std. If not available, add \$110. <sup>3</sup>	x	x	Std. If not available, add \$110. <sup>3</sup>		x	x
	Not included. If std., deduct \$110. <sup>3</sup>			Not included. If std., deduct \$110. <sup>3</sup>			
Tire size	18.4 x 34, 6-ply or closest size	x	x	18.4 x 38, 12-ply or closest size		x	x
Fenders	Deluxe "crown" type used. If regular, add \$70.	x		Deluxe "crown" type used. If regular, add \$70.		x	
	Full-coverage fenders. If regular add \$120. <sup>3</sup>			Full-coverage fenders. If regular, add \$120. <sup>3</sup>			
Lights	Std. unit	x	x	Std. unit		x	x
Seat	Deluxe seat included	x	x	Deluxe seat included		x	x
Transmission	"On-the-go-shift-within-the-range" std. If not available, add \$350. <sup>3</sup>			"On-the-go-shift" std. If not available, add \$350. <sup>3</sup>			
Brakes	Std. unit, 1 power, 5 mechanical	x	x	Std. unit, 1 power, 5 mechanical		x	x
Power take-off <sup>2</sup>	Ind. PTO. If not available and live PTO std., add \$40. <sup>3</sup>	x	x	Ind. PTO. If not available and live PTO std., add \$40. <sup>3</sup>		x	x
	if transmission PTO std., add \$130. <sup>3</sup>			if transmission PTO std., add \$130. <sup>3</sup>		x	x
Hitch	3-point hitch, draft & height control	x	x	3-point hitch, draft & height control		x	
	No 3-point hitch (i.e., no rockshaft)			No 3-point hitch (i.e., no rockshaft)		x	x
Drawbar	Regular swinging	x	x	Regular swinging		x	
	Heavy-duty wide swinging			Heavy-duty wide swinging			
Hydraulics	Pump, 2 remote hydraulic circuits with breakaway couplers. If not available, add \$20. <sup>3</sup>			Pump, 2 remote hydraulic circuits with breakaway couplers. If not available, add \$20. <sup>3</sup>		x	x

<sup>1</sup> Average option price, all companies offering.

<sup>2</sup> Power take-off - Independent - Live - Transmission -

<sup>3</sup> Estimated extra cost to raise to standard level, generally average of John Deere, Massey-Ferguson, and International Harvester option prices.

Table C.3 compares the prices and specifications for three makes of four-wheel-drive tractors available to Canadian farmers in the 1967 selling season, the Case 1200, the International Harvester 4100 and the Versatile tractor with the Cummins V-6 diesel engine. The strikingly lower Versatile price is evident, accompanied by some elimination of items which are available as standard or optional equipment on the other makes. The chief structural difference between the tractors, however, is their system of steering. Versatile's articulated steering is cheaper to build and maintain because it uses fixed front and rear axles, eliminating the angular transmission of power at the steering ends of the axles.

TABLE C.3—PRICE AND SPECIFICATION DIFFERENCES, FOUR-WHEEL-DRIVE TRACTORS, 1967 SELLING SEASON

Specifications and Description	Case 1200	IH 4100	Versatile (with Cummins V-6 Diesel)
1. Basic Tractor	\$16,250	\$17,894	\$9,996
2. Features and Options			
1. PTO (this feature allows for use of tractor powered implements). Not needed for cultivating, seeding, plowing, etc., but adds to versatility of machine.	Optional (1000 r.p.m.) \$726.51	n.a.	n.a. <sup>1</sup>
2. Steering			
(a) Front wheel steer - conventional steering for fast highway travel or field work.	Std.	Std.	
(b) Rear wheel steer - adds to manoeuvrability; rear wheels don't follow in tracks of front wheels, which allows for less compaction of soil.	Std.	Std.	
(c) Co-ordinated front and rear. Front and rear wheels can operate independently with full power to all wheels.	Std.	Std.	
(d) Crab steer - all wheels may be turned uphill to offset implement drift.	Std.		
(e) Articulated steering - tractor turns around pivot in centre of tractor.			Std.
3. Hydraulics and 3-point hitch - allows for attachment of a wider range of implements; hydraulics allow for precision depth control and convenient highway transport of implements.	Optional \$1,245.00	Hydraulics std. but 3- pt. hitch not available.	Hydraulics std. but 3- pt. hitch not available. <sup>1</sup>
4. Drawbar			
(a) Wide swinging dbr can be used without 3-pt. hitch - has larger range of horizontal swing and thus can handle sharper turns with implement attached.	Std.	Std.	Std.
(b) Hydraulically adjustable drawbar - can be raised or lowered to exact height for easy hitching to large implements.		Optional \$335.50	

TABLE C.3 (Concluded)

	Gear MPH		Gear MPH		Gear MPH	
5. Minimum Turning Radius. A smaller turning radius allows greater manœuvrability.	16'6"		13'6"		13'	
6. Number of Gears forward and speed (MPH) of each - variations in speed range allow for greater versatility in varying field conditions and optimum pulling speed for a wider range of implement sizes.	1	2.5	1	2	1	3.2
	2	3.2	2	4	2	3.9
	3	4.1	3	4¾	3	4.2
	4	5.3	4	5¾	4	4.9
	5	6.5	5	6½	5	5.5
	6	8.4	6	14	6	6.3
	7	11.0	7	17	7	10.7
	8	14.0	8	20¾	8	14.2
				5	18.4	
7. Ground Clearance - a higher ground clearance allows for greater mobility in hilly or adverse field conditions.	15¼"		17"		20"	
8. Cab						
Allows for greater operator comfort and protection in poor weather.	Optional	Optional	Optional	Optional	Optional	Optional
	\$769.00	\$943.00	\$720.00			
	Cab includes: tinted galss, pressurizer, ventilator	Cab includes: pressurizer, windshield wiper, dome light, tinted glass, ventila- tor	Cab includes: tinted glass, pressurizer			
	Cab options: heater \$58.00, windshield wiper \$26.50					

<sup>1</sup> It is understood that these features will be available in 1969 models.

While for tractors the Nebraska tests provided precise information on the horsepower rating of each tractor, no equivalent test data were available on combines. This made it necessary to fall back on the comparisons of different combine models that are made in the "sales aids" issued by the farm machinery companies. The sales aids used were those issued by International Harvester<sup>2</sup> and Massey-Ferguson<sup>3</sup> and the combine models compared are listed in Table C.4. For comparison combines were placed in four different size groups. The specifications of the combines in each group are given in Table C.5.

The combines placed in each group do not represent identical combines in the sense that they had identical dimension for all operating components, but they are combines which at least two companies in the industry regard as competitive. The combines in each group were priced so as to include as identical a level of optional equipment as possible, including such things as tires, type of cylinder, table width, power steering, grain tank size and other hydraulics. In general the study followed the comparisons suggested by International Harvester's sales aid, because it was more recent and provided more specific comparative details.

That the resulting price comparisons are rough approximations at best is indicated by the following commentary on the characteristics of different combines which has been taken from the March 1968 issue of *The Grain Grower*.<sup>4</sup> This descriptive commentary suggests there may be substantial performance differences between combines of different makes in the same size class.

---

<sup>2</sup>International Harvester Company of Canada, Limited, *IH Sales Know-How Bulletin CA-2198-W*, June 17, 1968, the last page of which reads as follows:

This bulletin contains brief specifications, feature comparisons, and comparative prices of International and competitive self-propelled combines.

In the comparative price section, every attempt has been made to equip the combines as near alike as possible in order to arrive at a fair comparison. For instance, the Model E-III Gleaner on Page 9 does not come with wheel brakes as standard equipment, so the extra charge for wheel brakes of \$225.00 has been added in order to make their machine comparable with the others listed on that page.

At the same time, we have added extra attachments to International Combines in order to make them comparable where it was necessary to do so. For example, on Page 12 we add \$249.00 to the price of the 403 combine for a hydraulic reel lift. We do so because the Massey-Ferguson 410, New Holland 985, and Ford 630 include a hydraulic reel lift as standard equipment. We have added this item also to the Case 1060, Gleaner F, John Deere 95, and the Oliver 545 . . . . You will also notice that we have tried to equalize tire sizes wherever possible. . . .

We believe a careful study and thorough knowledge of the information in this bulletin will assist you when selling combines. Use it often and Good Selling in 1968.

(PRICES AND SPECIFICATIONS ARE CURRENT AT THE DATE OF THIS PRINTING, AND ARE SUBJECT TO CHANGE.)

<sup>3</sup>Massey-Fergusson Industries Limited, *Line-by-Line*, a comparison of grain harvesting equipment (no other reference except the following on the last page. "Note: The specifications shown in this book were taken from competitors' customer literature and are believed to be correct as of Oct. 1, 1967. Massey-Ferguson reserves the right to change its own specifications or design without obligation or prior notice.")

<sup>4</sup>"handy guide for 1968 self-propelled combines", *The Grain Grower*, March, 1968, p. 745, a publication of the United Grain Growers' Association, a grain producers' marketing co-operative organization with headquarters in Winnipeg, Manitoba.



TABLE C.4—COMPARISON OF SELF-PROPELLED COMBINE MODELS SOLD IN CANADA, PRESENTED AS COMPETITIVE IN COMPANY SALES LITERATURE, AND USED BY COMMISSION IN COMPARING COMBINE PRICES

	Allis-Chalmers	J.I. Case	C.C.I.L. (Claas)	Cockshutt	John Deere	Ford (Claas)	International Harvester	Massey-Ferguson	New Holland	Versatile
<b>GROUP 1</b>										
IH comparison	[E-III]	660	—	525	45	—	[105]	205	[—]	—
M-F comparison	E	660	—	525	45	—	205	205	975	—
Study comparison	[E-III]	660	n.a.	525	45	n.a.	[105]	205	[omitted]	n.a.
<b>GROUP 2</b>										
IH comparison	A II	960	—	535	55	620	[315]	300	[975]	—
M-F comparison	A II	960	—	535	55	620	303	300	985	—
Study comparison	omitted	960	n.a.	535	55	620	[315]	300	[975]	n.a.
<b>GROUP 3</b>										
IH comparison	[F]	1060	—	545	95	630	403	410	[985]	—
M-F comparison	C II	1060	—	[542]	95	630	403	410	980	420
Study comparison	[F]	1060	"Mercury"	[542]	95	630	403	410	[985]	420
<b>GROUP 4</b>										
IH comparison	[G]	1660	—	—	105	640	503	510	[995]	—
M-F comparison	—	1660	—	[545]	105	640	503	510	990	—
Study comparison	[G]	1660	"Giant"	[545]	105	640	503	510	[995]	n.a.

Note: Where models of combines are different in comparison groups of International Harvester and Massey-Ferguson sales literature, boxed model numbers indicate which of alternatives was used in this comparison. Of 11 such cases, the International Harvester comparison was used in nine for two uses of the Massey-Ferguson data, largely because of the greater amount of matching specification detail in the former company's material. See text for description of company literature.

TABLE C.5 - 1968 COMBINE COMPARISONS

GROUP 1					
Allis-Chalmers E-III	J.I. Case 660	Cockshutt 525	John Deere 45	International Harvester 105	Massey-Ferguson 205
Specifications Details					
1. Cylinder, size (in.) type, drive	19.25x27 R,Va,C R,C	18x40 R,C	22x26 R,C	15.25x42 R,C	22x26 R,C
2. Separating area (sq.in.)	5,448	4,480	3,380	4,230	3,800
3. Cleaning area (sq.in.)	2,680	2,830	2,654	2,246	2,144
4. Engine HP	62.7	65	83	59	55
displacement (cu.in.)	226	201	251	180	170
type	G	G	G	G	G
5. Grain tank capacity (bu.)	66	40.50,WEX	50	55.62,WEX	64
6. Length/height (in.)	267.5/104	267/132	282/138	173/120	300.5/110
7. Shipping weight (lbs.)	8,240(Rb)	6,850(Rb)	7,050(Rb)	8,140	7,700(Rb)
8. Header size (ft.)	13	13	12	13	13
9. Hydraulic table lift	S	S	S	S	S
10. Reel size (# of bars)	5(metal)	6	6	6	6
11. Hydraulic reel lift	Opt.	Opt.	Opt.	Opt.	Opt.
12. Reel drive & support arms	S	Opt.	S	Opt.	S
13. Header disengage clutch	S,A'	S,A'	S,A'	S,A'	S,A'
14. Concave	S	Opt.	Opt.	Opt.	Opt.
15. Stone trap or door	3	U	3	3	3
16. No. of straw walkers	S,A	S,A	S,A	S,A	S,A
17. Chaffer	S(2 fan)	S,A	S,A	S,A	S,A
18. Fanning mill	Opt.	Opt.	Opt.	Opt.	Opt.
19. Straw spreader	Opt.	S	S	Opt.	Opt.
20. Power steering	S,3-speed	S,3-speed	S,3-speed	S,3-speed	S,3-speed
21. Transmission	S,H Co	S,H Co	S,H Co	S,H Co	S,H Co
22. Drive control	S,14.9x26x6	14.9x26x6	14.9x26x8	S,13.6x26x4	14.9x26x6
23. Tires, drive steer	S,6.0x16x4	6.5x16x4	S,6.7x15x4	S,6.0x16x4	S,6.0x16x4
24. Brakes, type	1,H	S,M	S,Dd,Se	S,M	S,1,H,D1
25. Engine hood	S	Opt.	Opt.	S	Opt.
26. Lights	S,80	Opt.	74	S,78	S,71.5
27. Rear axle, size (in.)	O.n.a.	Opt.	N.N.	Opt.	N.N.
28. Grain tank extension	Independence, Missouri	Bettendorf, Iowa	East Moline, Illinois	Hamilton, Ontario	Brantford, Ontario
29 F.O.B. point					

TABLE C.5 (Continued)

TABLE C.5 - Continued

## GROUP 2

	J.I. Case 960	Cockshutt 535	John Deere 55	John Deere 430	Ford 620	International Harvester 315	Massey-Ferguson 300	New Holland 975
	<i>Specification Details</i>							
1. Cylinder, size (in.)	18x40	22x34	22x30	24x30	18x41	20x41.25	22x30	20x39.5
2. type, drive	R, C	R, C	R, C	R, Va	R, Va, V	R, C	R, C	R, Va
3. Separating area (sq. in.)	5,080	4,420	4,200	5,200	5,735	4,547	3,900	5,711
4. Cleaning area (sq. in.)	2,830	3,260	3,024	3,300	3,177	3,433	2,660	3,587
5. Engine HP	70	93	72	67	70	72	72	87
6. displacement (cu. in.)	225	265	303	219	233	221	225	240
7. type	G	G	G	D	G	G	G	G
8. Grain tank capacity (bu.)	55	75	65, 76 WEx	61 WEx	60	70	56, 71 WEx	80
9. Length/height (in.)	276/138	293/146	294/142	n.a./n.a.	286/120	255/121	307.25/116	279/115
10. Shipping weight (lbs.)	7,324 (Rb)	10,000 (Rb)	10,000 (Rb)	9,281	9,380 (Rb12)	9,379 (Rb)	7,600 (Rb)	11,260 (Rb)
11. Header size (ft.)	13	13	13	10	10	13	13	13
12. Hydraulic table lift	S	S	S	S	S	S	S	S
13. Reel size (# of bats)	6	6	6	S, n.a.	F	6	6	6
14. Hydraulic reel lift	Opt.	Opt.	Opt.	S	S	Opt.	Opt.	S
15. Reel drive & support arms	Opt.	Opt.	Opt.	Va	S, Va	Opt.	Opt.	Opt.
16. Header disengage clutch	S	S	EC1	n.a.	S	S	S	S
17. Concave	S, A'	S, A'	S, A'	S	S, A'	S, A'	S, A'	S, A
18. Stone trap or door	Opt.	S	S	S	S	S	S, Od	S
19. No. of straw walkers	4	4	3	3	4	n.a.	3	4
20. Chaffer	S, A	S, A	S, A	S, A	S, A	S, A	S, A	S, A
21. Fanning mill	S, A	S, A	S, Va	S, Va	S	S, A	S, A	S, A
22. Straw spreader	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.
23. Power steering	S	S	S	S	S	S	S	S
24. Transmission	S, 3-speed	S, 3-speed	S, 4-speed	S, 3-speed	S, 3-speed	S, 3-speed	S, 3-speed	S, 3-speed
25. Drive control	S, H Co	S, H Co	S, H Co	S, H Co	S, H Co	S, H Co	S, H Co	S
26. Tires, drive	16.9x26x8	16.9x26x8	16.9x26x6	S, 14.9x26x6	S, 18.4x26x6	16.9x26x6	18.4x26x6	16.9x26x8
27. Tires, steer	6.5x16x4	S, 6.7x15x6	6.5x16x4	S, 7.5x16x6	S, 7.5x18x4	S, 6.5x16x4	7.5x18x4	6.0x16x4
28. Brakes, type	S, M	S, M Dd	S, I, Se	S, I Wh Br	S	S, M	S H Di	S
29. Engine hood	Opt.	S	S	n.a.	S	S	S	S
30. Lights	Opt.	S	S	n.a.	S	S	Opt.	Opt.
31. Rear axle, size (in.)	S, 78	79.5	66	n.a.	S, 79	S, 75.5	S, 80	S, 80
32. Grain tank extension	O.n.a.	N.N.	N.N.	n.a.	O.n.a.	N.N.	Opt.	N.N.
33. F.O.B. point	Bettendorf, Iowa	Brantford, Ontario	East Moline, Illinois	Port Arthur, Ontario	Port of Entry	East Moline, Illinois	Brantford, Ontario	Grand Island, Nebraska



TABLE C.5 - (Continued)

	Price Details									
	\$7,774	\$8,224	\$8,266	\$9,924 <sup>1</sup>	\$8,413	\$8,007	\$7,653			
1. Basic combine price										
2. Header	1,293	1,187	1,300	-	1,385	1,323	\$7,570			\$8,358
3. Reel	116	235	104	-	134	190	570			1,160
4. Hydraulic reel lift	295	188	202	-	-	145	110			95
5. Reel drive & support arms	inc. in (4)	inc. in (3)	86	-	-	incl. in (3)	243			incl. in (2)
6. Header disengage clutch	-	-	204	-	-	-	94			25
7. Stone trap	26	-	-	-	-	-	-			-
8. Straw spreader	94	65	95	-	-	-	-			-
9. Tires, drive	43	41	39	-	132	81	78			84
10. Engine hood	2	-	5	-	-	46	167			471
11. Lights	38	-	-	-	-	-	incl. in (9)			65
12. Rear axle	29	-	-	-	-	-	-			-
13. Grain tank extension	-	42	16	-	-	-	46			31
14. Total list price	\$9,710	\$9,982	\$10,341	\$10,039	\$10,064	\$9,792	\$9,082			\$10,289

Legend Code:

- A: adjustable
- A': on-the-go adjustable
- Ad: air driven
- Avail: available
- B: battery
- Br: brakes
- C: chain
- Cl: clutch
- Co: control
- D: diesel
- Di: disk
- Dd: dual disk
- Dr: drive

- E: electric
- Ex: extension
- F: finger type
- G: gas
- H: hydraulic
- I: independent, individual
- Ma: magnetic
- M: mechanical
- n.a.: information not available
- N.N.: available but not necessary
- Od: on-the-go dump
- O.n.a.: option not available
- Opt.: optional, added in Price Details

- Pd: power driven
- R: rasbar
- Rb: Red Book
- S: standard
- Se: self-energizing
- T: table
- U: U-rack type (straw rack)
- V: V-belt
- Va: varspeed
- W: with
- Wh: wheel
- Wr: wrench

Note: "Finger type" reels only are available for C.C.I.L. and Ford models. This type of reel is offered by some other companies as optional, at an average addition of approximately \$200 over a plain reel.

Symbol: - Indicates item included in basic machine specifications.

<sup>1</sup> John Deere 430 prices available only for 1969.

TABLE C.5 (Continued)

	GROUP 3										
	Allis-Chalmers F	J.I. Case 1060	C.C.I.L. "Mercury"	Cockshutt 542	John Deere 95	John Deere 630	Ford 630	International Harvester 403	Massey- Ferguson 410	New Holland 985	Versatile 420
	Specification Details										
1. Cylinder size (in.) type, drive	19.25x37.5 R.C. Va	20x42 R.C.	18x42 R.H. Co. Va	22x42 R.C.	22x40 R.C.	24x40.5 R. Va	18x49.5 R.C.	22x40 R.C.	22x37 R.C.	23.6x39.5 R. Va	19.5x42 R.C.
2. Separating area (sq.in.)	6,875	5,754	5,347	5,510	5,600	6,900	7,209	5,244	6,672	6,584	5,418
3. Cleaning area (sq.in.)	3,441	3,440	3,177	4,090	4,071	4,400	4,768	3,730	4,005	3,984	3,662
4. Engine HP	93	88	52	93	90	95	105	90	93	108	88
5. Displacement (cu.in.)	262	318	270	265	303	303	300	263	292	300	318
6. Grain tank capacity (bu.) type	G	G	D	G	G	D	G	G	G	G	G
7. Length/height (in.)	77	70	75	75	80	77 WEX	77	65	73	90	75
8. Shipping weight (lbs.)	263/116	277/153	331/128	293/145	310/144	n.a./n.a.	328/129	314/140	320/121.7	324/121	240/119
9. Header size (ft.)	10.620(Rb 17)	10.189(Rb)	7.546(Rb8'6")	9.150 (Rb)	12.800 (Rb)	12.886	11.850(Rb)	9.871 (Rb)	9.950(Rb14')	13,200 (Rb)	8,200 (11'7")
10. Hydraulic table lift	15	14	14	14	14	12	12	14	14	15	13
11. Reel size (# of bats)	S	S	S	S	S	S	S	S	S	S	S
12. Reel drive & support arms	5 (metal)	6	SF	6	6	S	F	6	6	6	6
13. Header disengage clutch	Opt.	Opt.	S Va	Opt.	Opt.	S Va	S Va	Opt.	Opt.	Opt.	Opt.
14. Concave	S	Opt.	S	S	EMa Cl	n.a.	S Ma	S	EMa Cl	S	S Ma
15. Stone trap or door	S	Opt.	S	S	S A'	S	S	S A'	S A'	S A'	S A'
16. No. of straw walkers	4	4	4	4	4	4	4	4	4	4	4
17. Chaffer	S A	S A	S A	S A	S A	S A	S A	S A	S A	S A	S A
18. Fanning mill	S (2 fan)	S A	S	S A	S A	S Va	S A	S A	S A	S A	S A
19. Straw spreader	Opt.	Opt.	Opt.	Opt.	Opt.	S	Opt.	Opt.	Opt.	Opt.	Opt.
20. Power steering	Opt.	S	S	S	S	S	S	S	S	S	S
21. Transmission	S,3-speed	S,3-speed	S,3-speed	S,3-speed	S,4-speed	S,4-speed	S,3-speed	S,3-speed	S,3-speed	S,3-speed	S,3-speed
22. Drive control	S,H Co	S,H Co	S,H Co	S,H Co	S,H Co	S,H Co	S,H Co	S,H Co	S,H Co	N.A.	S,H Co
23. Tires, drive	S,18.4x26x6	18.4x26x6	S,18.4x30	S,18.4x26x6	S,18.4x26x6	S,18.4x30x8	S,18.4x26	18.4x26x6	18.4x26x6	18.4x26x6	S,14.9x26x6
24. Brakes, type	S,7.5x16x4	S,7.5x18x4	S,11.0x15	7.5x18x6	7.5x16x4	S,7.5x16x4	S,8.5x12	7.5x18x4	7.5x18x4	7.5x18x4	S,7.6x15x4
25. Engine hood	S	S	S	S	S	S	S	S	S	S	S
26. Lights	S	S	S	S	S	S	S	S	S	S	S
27. Rear axle, size (in.)	S,90	Opt.	S,39	S,64.5	S,66	O.n.a.	S,79	S,66	S,78.7	Opt.	Opt.
28. Grain tank extension	O.n.a.	O.n.a.	O.n.a.	O.n.a.	N.N.	O.n.a.	O.n.a.	N.N.	N.N.	N.N.	O.n.a.
29. F.O.B. point	Independence, Missouri	Bettendorf, Iowa	Winnipeg, Manitoba	Brantford, Ontario	East Moline, Illinois	Port Arthur, Ontario	Port of Entry	East Moline, Illinois	Brantford, Ontario	Grand Island, Nebraska	Winnipeg, Manitoba

TABLE C.5 (Continued)

	Price Details									
	\$9,939	\$9,347	\$10,763	\$8,623	\$10,245	\$11,094 <sup>1</sup>	\$9,856	\$9,474	\$9,878	\$9,732 <sup>2</sup>
1. Basic combine price										\$8,480
2. Cylinder	-	-82	-	-	-	-	-	-	-	-
3. Header	1,062	1,518	-	788	1,395	995	1,418	1,401	609	1,318
4. Hydraulic table lift	incl. in (3)	-	-	-	-	-	-	-	-	100
5. Reel	139	303	-	241	108	-	140	154	124	106
6. Hydraulic reel lift	152	303	-	188	204	-	-	249	209	260
7. Reel drive & support arms	incl. in (3)	incl. in (6)	-	incl. in (5)	82	-	-	109	94	incl. in (5)
8. Header disengage clutch	-	111	-	-	202	-	-	-	203	25
9. Stone trap	-	28	-	-	-	-	-	22	62	-
10. Straw spreader	107	90	108	68	102	120	155	81	83	30
11. Power steering	188	-	-	-	-	-	-	106	99	-
12. Tires, drive	-	106	-	-	-	-	-	-	incl. in (12)	527
13. Lights	-	28	-	45	19	-	-	-	46	31
14. Rear axle	-	22	-	-	-	-	-	-	-	30
15. Total list price	\$11,448	\$11,610	\$10,871	\$9,953	\$12,357	\$12,209	\$11,569	\$11,596	\$11,407	\$11,920

Legend Code:

A:	adjustable	E:	electric	Pd:	power driven
A*:	on-the-go adjustable	Ex:	extension	R:	raspar
Ad:	air driven	F:	finger type	Rb:	Red Book
Avail:	available	G:	gas	S:	standard
B:	battery	H:	hydraulic	Se:	self-energizing
Br:	brakes	I:	independent, individual	T:	table
C:	chain	Ma:	magnetic	U:	U-rack type (straw rack)
Cl:	clutch	M:	mechanical	V:	V-belt
Co:	control	n.a.:	information not available	Va:	varispeed
D:	diesel	N.N.:	available but not necessary	W:	with
Di:	disk	Od:	on-the-go dump	Wh:	wheel
Dd:	dual disk	On.a.:	option not available	Wr:	wrench
Dr:	drive	Opt:	optimal, added in Price Details		

Note: "Finger type" reels only are available for C.C.I.L. and Ford models. This type of reel is offered by some other companies as optional, at an average addition of approximately \$200 over a plain reel.

Symbol: - Indicates item included in basic machine specifications.

<sup>1</sup>John Deere 630 prices are for 1969.

<sup>2</sup>Includes appropriate discharge auger.

TABLE C.5 (Continued)

GROUP 4											
Allis-Chalmers	J. I. Case 1660	C.C.I.L. "Giant"	Cockshutt 545	Specification Details			Ford 640	International Harvester 503	Massey-Ferguson 510	New Holland 995	
				John Deere 105	John Deere 730						
1. Cylinder size (in.) type, drive	22x52	18x49	22x42	22x50	24x51	18x49.5	22x48.75	22x45	23.6x49.5		
2. Separating area (sq. in.)	R, C, Va	R H Co, Va	R, C	R, C	R, Va	R, V, Va	R, C	R, C	R, Va		
3. Cleaning area (sq. in.)	8,109	8,137	5,510	6,930	8,500	8,500	6,538	7,784	8,230		
4. Engine HP	4,138	4,896	4,090	5,078	5,600	4,964	4,652	4,901	4,950		
5. displacement (cu. in.) type	102	87	115	105	110	105	106	105	130		
	301	354	318	341	329	300	282	327	361		
6. Grain tank capacity (bu.)	G	D	G	G	D	G	G	G	G		
7. Length/height (in.)	100	59	10,110 WEX	100	80 WEX	91	70,106 WEX	85,125 WEX	100		
8. Shipping weight (lbs.)	253.5/115.25	386/139	293/148	286/144	n.a./n.a.	343/134	314/142.6	320/124	324/131		
9. Header size (ft.)	12,146(RB)	11,000	10,475(RB)	14,200(RB)	13,625	13,473(RB14)	10,481(RB)	11,473(RB14)	14,500(RB)		
10. Hydraulic table lift	17	16	16	16	16	12	16.5	16	17		
11. Reel size (# of bats)	Opt.	S	S	S	S	S	S	S	S		
12. Hydraulic reel lift	S (metal)	S, F	6	6	6	F	6	6	6		
13. Reel drive & support arms	Opt.	S	Opt.	Opt.	S, Va	S	Opt.	Opt.	Opt.		
14. Header disengage clutch	Opt. Va	S, Va	S	Opt.	S, Va	S, Va	S	Opt.	Opt.		
15. Concave	S	S, M	S	E Ma Cl	n.a.	S	S	E Ma Cl	S		
16. Stone trap or door	S, AW Wr	S, A	S, A	S, A	S	S, A	S, A	S, A	S, A		
17. No. of straw walkers	Opt.	S	S	S	S	4	Opt.	Opt.	S		
18. Chaffer	S	4	S	S	S	S	S	S	S		
19. Fanning mill	S, A	S	S, A	S, A	S, A	S, A	S, A	S, A	S		
20. Straw spreader	S (2 fan)	S	S, Va	S, Va	S, Va	S	S, Va	S, Va	S, Va		
21. Power steering	Opt. dual	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt.	Opt. dual		
22. Transmission	S	S	S	S	S	S	S	S	S		
23. Drive control	S, 3-speed	S, 3-speed	S, 3-speed	S, 4-speed	S, 4-speed	S, 3-speed	S, 3-speed	S, 3-speed	S, 3-speed		
24. Tires, drive	S, H Co	S, H Co	S, H Co	S, H Co	S, H Co	S, M	S, H Co	S, H Co	S, H Co		
25. Tires, steer	18.4x30x10	S, 18.4x30	S, 18.4x26x6	S, 18.4x26x10	S, 18.4x30x8	S, 18.4x30x8	18.4x26x10	18.4x26x10	18.4x30x10		
26. Brakes, type	S, 7.5x16x4	S, 11.0x15	S, 7.5x18x6	S, 7.5x16x4	S, 7.5x20x8	S, 11.5x18x6	7.5x18x4	S, 7.5x18x4	7.5x20x4		
27. Engine hood	S, I H	S, M (dual)	S, Id, Se	S, I M Dd	S, I Wh Br	S, H	S, M	S, I H Dd	S		
28. Lights	S	n.a.	S	S	n.a.	S	S	S	S		
29. Rear axle size (in.)	S	S	S	S	S	S	S	Opt.	Opt.		
30. Grain tank extension	S, 100	S, 50	S, 64.5	66	n.a.	S, 81	S, 66	S, 78.7	S, 56		
31. F.O.B. Point	O.n.a.	O.n.a.	Opt.	N.N.	S	O.n.a.	Opt.	Opt.	N.N.		
Independence, Missouri	Bettendorf, Iowa	Winnipeg, Manitoba	Brantford, Ontario	East Moline, Illinois	Port Arthur, Ontario	Port of Entry	East Moline, Illinois	Brantford, Ontario	Grand Island, Nebraska		



TABLE C.5 (Concluded)

	Price Details										
	\$12,027	\$11,940	\$13,640	\$10,112	\$12,186	\$13,094 <sup>1</sup>	\$11,648	\$11,690	\$11,819	\$11,039 <sup>2</sup>	
1. Basic combine price	—	—	—	—	—	—	—	—	—	—	
2. Cylinder	—	-82	—	—	—	—	—	—	—	—	
3. Header	1,334	1,819	—	1,289	1,521	1,365	1,418	1,500	690	1,398	
4. Hydraulic table lift	incl. in (3)	—	—	—	—	—	—	—	—	—	
5. Reel	148	—	—	251	116	—	140	197	141	119	
6. Hydraulic reel lift	incl. in (3)	—	—	188	206	—	—	249	209	incl. in (3)	
7. Reel drive & support arms	incl. in (3)	—	—	incl. in (5)	86	—	—	109	94	25	
8. Header disengage clutch	—	—	—	—	202	—	—	—	203	—	
9. Stone trap	—	30	—	—	—	—	—	27	72	—	
10. Straw spreader	157	113	140	68	156	195	155	93	143	138	
11. Power steering	—	—	—	—	—	—	—	—	—	—	
12. Tires, drive	37	—	—	—	—	—	—	110	98	1,038	
steer	—	—	—	—	—	—	—	29	—	111	
13. Lights	—	28	—	—	—	—	—	—	46	31	
14. Rear axle	—	26	—	—	15	—	—	—	—	—	
15. Grain tank extension	—	—	—	—	—	—	—	—	—	—	
16. Total list price	\$13,555	\$14,022	\$13,780	\$12,034	\$14,488	\$14,654	\$13,361	\$14,343	\$13,646	\$13,899	
Legend Code:											
A:	adjustable	E:	electric				Pd:	power driven			
A':	on-the-go adjustable	Ex:	extension				R:	raspbar			
Ad:	air driven	F:	finger type				Rb:	Red Book			
Avail:	available	G:	gas				S:	standard			
B:	battery	H:	hydraulic				Se:	self-energizing			
Br:	brakes	I:	independent, individual				T:	table			
C:	chain	Ma:	magnetic				U:	U-rack type (straw rack)			
C1:	clutch	M:	mechanical				V:	V-belt			
Co:	control	n.a.:	information not available				Va:	varispeed			
D:	diesel	N.N.:	available but not necessary				W:	with			
Di:	disk	Od:	on-the-go dump				Wh:	wheel			
Dd:	dual disk	O.n.a.	option not available				Wt:	wrench			
Dr:	drive	Opt:	optional, added in Price Details								

Note: "Finger type" reels only are available for C.C.I.L. and Ford models. This type of reel is offered by some other companies as optional, at an average addition of approximately \$200 over a plain reel.

Symbol: — Indicates item included in basic machine specifications.

<sup>1</sup> John Deere 730 prices are for 1969.

<sup>2</sup> Includes appropriate discharge auger.

*The Grain Grower* made the following comments about structural differences:

#### CROP FLOW

All combines can be put into one of four groups – depending upon the way the crop is fed from the table to the cylinder.

##### (a) Allis-Chalmers

No grain elevator is required, so greater area can be given to separation. Also, the cylinder beater directs stones directly into the stone trap.

##### (b) Versatile

Each beater operates at a different speed so that the crop flow is gradually increased as it moves up to the cylinder. Crop is fed evenly into the cylinder as bunches and mats in the windrow are broken up, thus reducing the chance of cylinder plugging.

##### (c) CCIL, Claas, John Deere 30 Series, Cockshutt, MM, New Holland, Case

Conventional method of getting the crop to cylinder which is located above and behind the front axle.

##### (d) John Deere, Massey-Ferguson (option), International Harvester

Combs out the windrow tangles so the crop is fed evenly to the cylinder. Beater on MF and IHC machine, is just in front of the cylinder to provide a more positive method to control stones that may be picked up.

#### CYLINDER AND CONCAVE

The rasp bar cylinder continues to be the best method of threshing grain. During the last few years a lot of research has been done on new ways to remove the kernel from the head. . . .

Under normal operation 75 to 90 percent of all grain is removed at the cylinder. But if the combine speed is increased and cylinder is over-loaded, providing the combine has the power, only 50 per cent of the grain may be separated at the cylinder; the balance of separation takes place at the walkers. . . .

All combines, except Allis-Chalmers have an open grate concave, A.C. combines have the closed type so all grain with the straw and the chaff is delivered to the raddle where the first separation takes place.

The number of concave bars range from 8 to 12. John Deere, I.H.C. and Cockshutt and M.M. have what John Deere calls a "cell" grate instead of the finger grates. The claim is that the cell grate slows down the movement of material so more complete separation takes place before the walkers. Massey Ferguson uses a curtain to slow the material.

On the I.H.C. combines the cylinder-concave clearance can be adjusted so that when the concave is wide open at the front, threshing occurs only on the three rear concave bars. They claim this feature is desirable for harvesting malting barley where severe rubbing could damage the seed coat. . . .

#### SEPARATION AREA

As the crop leaves the cylinder, all combines have a beater to slow and spread the material on the walkers, (raddle on AC combines). Most combines have four blades on the beater; Versatile has 6 and Claas have 8.

The Allis-Chalmers combines are equipped with two fans. The forward one directs a blast of air through the straw, chaff and grain coming off the raddle to pre-clean the grain before it reaches the shoe. The other fan functions like the fan in all other combines. . . .

#### CLEANING AREA

After the grain has been separated from the straw, it is ready for the cleaning unit. The area considered in cleaning is the chaffer sieve, chaffer extension and the cleaning sieve. Massey-Ferguson have added a third screen, cascade shoe, to its 410 and 510 which improves the cleaning ability of the combines. Any heads not threshed are returned to the cylinder for rethreshing. On MF combines a miniature rasp bar cylinder and concave in the returns elevator threshes the heads and returns the material to the pan below the walkers. . . .

It must be clear from this discussion of the special characteristics of different combines that some of the price differences between competitive combines reflect the special features of the various models. At the moment the farmer's evaluation of these features must be largely subjective since there are no precise test data available that measure the performance of the different combines.



## Appendix D

### RELATIVE COSTS AND PROFITS OF TRACTOR MANUFACTURING AND DISTRIBUTION, NORTH AMERICA (CANADA) AND BRITAIN

This appendix discusses relative costs and profits in tractor manufacturing and sales in Britain and North America. The first part of the appendix discusses the development of manufacturing costs in the industry in North America and Britain, and the second post-production costs related to Canadian and British distribution. The third section analyzes the profits earned on particular tractors sold in Britain and Canada. A *Technical Note to Appendix D* describes in detail the procedures and data used to develop estimated costs for British manufacturing.

#### Costs of Tractor Manufacturing

The Commission is publishing, concurrently with this Report, the study, *Farm Tractor Production Costs*,<sup>1</sup> which examines 1967-8 production costs in North America for a new plant producing a mix of tractors suitable for the North American market in three horsepower ranges, 40 HP, 90 HP, and 130 HP, at three volume levels, 20,000, 60,000, and 90,000 units a year. In this study, detailed cost breakdowns by component factors are shown. These cost breakdowns can be transferred to British cost levels by replacing the cost factors used in the study with equivalent British cost factors taken at specific points of time. In this appendix, British costs for 1966-7 and 1968-9 were used to give costs before and after the November 1967 devaluation of the British pound sterling.

The procedure used has the effect of transferring on paper the North American "plant" developed in the study to Britain initially assuming the same level of productivity and over-all efficiency as estimated in the United States. A reconciliation by cost factors is set out in Table D.1 "Estimated Tractor Production Costs in North America and Britain" which first compares the production costs in the United States with those in Britain for the three ranges of tractors at the 60,000-unit volume level of the study, *Farm Tractor Production Costs*. British production costs at this volume level are then adjusted to the higher volume levels achieved in Britain and for modular design of engines and other components to develop totals representing "ideal" manufacturing cost levels. In both locations, a further adjustment is shown in this table reducing the costs of items purchased for assembly.

Costs of manufacturing tractors in Britain at the higher volume levels found in British plants of Ford and Massey-Ferguson approximate 60-65 per cent of U.S. cost levels at 60,000-unit volume (see Table D.1, Section 2), derived from the study, *Farm Tractor Production Costs*. Even when the U.S. production volume is raised to the assumed British level, British costs are only 72-78 per cent of U.S. costs.

---

<sup>1</sup> Royal Commission on Farm Machinery, *Farm Tractor Production Costs: A Study in Economies of Scale, Study No. 2* (Ottawa: Queen's Printer, 1969).



TABLE D.1—ESTIMATED TRACTOR PRODUCTION COSTS IN NORTH AMERICA AND BRITAIN

	AVERAGE TRACTOR		SMALL (40 HP)		MEDIUM (90 HP)		LARGE (130 HP)	
	1966-67	1967-68	1966-67	1968-69	1966-67	1968-69	1966-67	1968-69
1. <i>Summary Reconciliation, British and U.S. Costs</i>								
North American costs from study at 60,000-unit volume		\$3,412		\$2,601		\$3,465		\$4,682
<i>Reconciliation Factors — British cost higher/ (lower) than U.S. costs</i>								
Purchased items	\$ (346)	\$ (444)	\$ (256)	\$ (329)	\$ (346)	\$ (444)	\$ (440)	\$ (579)
Materials for mfg.	(45)	(95)	(42)	(73)	(57)	(99)	(84)	(144)
Labour	(194)	(202)	(142)	(148)	(199)	(207)	(301)	(314)
Operating expense	(11)	(13)	(8)	(10)	(12)	(14)	(15)	(18)
Support cost	(101)	(106)	(101)	(106)	(101)	(106)	(101)	(106)
Total	\$ (697)	\$ (860)	\$ (549)	\$ (666)	\$ (715)	\$ (870)	\$ (941)	\$ (1,161)
British costs at 60,000-unit volume	\$2,705	\$2,552	\$2,052	\$1,935	\$2,750	\$2,595	\$3,741	\$3,321
Volume adjustments to 120,000 units	(416)	(402)	(316)	(305)	(423)	(409)	(575)	(555)
	\$2,289	\$2,150	\$1,736	\$1,630	\$2,327	\$2,186	\$3,166	\$2,966
Adjustments for modular design	(25)	(25)	(25)	(25)	(25)	(25)	(25)	(25)
	\$2,264	\$2,125	\$1,711	\$1,605	\$2,302	\$2,161	\$3,141	\$2,941
Reduction for probable overestimate of cost of purchased items (see Technical Note to Appendix D)	(296)	(277)	(220)	(206)	(296)	(277)	(392)	(364)
	\$1,968	\$1,848	\$1,491	\$1,399	\$2,006	\$1,884	\$2,749	\$2,577
Convert to Cdn. — “Ideal” British manufacturing costs	\$2,127	\$1,998	\$1,612	\$1,512	\$2,168	\$2,037	\$2,972	\$2,786

TABLE D.1— (Concluded)

2. U.S. Costs at 60,000 Volume Compared with British Costs at 120,000 Volume	North American costs as above	\$3,412		\$2,601		\$3,465		\$4,682
	Reduction for probable overestimate of cost of purchased items	366		272		366		480
	Net costs	\$3,046		\$2,329		\$3,099		\$4,202
	Convert to Cdn. \$	\$3,293		\$2,518		\$3,350		\$4,542
	British "ideal" costs as percentage of adjusted North American costs at 60,000 volume	64.6%	60.8%	64.0%	60.1%	64.7%	60.9%	61.4%
3. U.S. and British Costs at Highest (120,000) Volume plus Modular Construction	North American net costs as above in 2.	\$3,046		\$2,329		\$3,099		\$4,202
	Adjustments for volume and modular construction	516		395		523		698
	Net costs at highest level	\$2,530		\$1,934		\$2,576		\$3,504
	Convert to Cdn. \$	\$2,735		\$2,091		\$2,785		\$3,788
	British "ideal" costs as percentage of U.S. "ideal" costs	77.8%	73.2%	77.1%	72.4%	77.8%	73.2%	73.7%

The exact procedures used in the development of the estimated British production costs are set out at the end of this appendix as *Technical Note to Appendix D*, containing one Table, D.13, "Detailed Analysis of Comparative Tractor Unit Manufacturing Costs (North America – United States, Britain, Pre-1967 Sterling Devaluation and Post-1967 Devaluation)". Generally, official statistical data on material and labour costs were used to develop costs of doing the same work, in the same way, and with the same efficiency as was initially assumed to exist in the United States in the study, *Farm Tractor Production Costs*. One cost factor was left untouched, that of fixed costs. There appeared to be no appropriate method of developing British equivalents of the component factors shown in the study which created the total "Fixed Costs". While it is almost certain that these costs would be lower in certain aspects in Britain (e.g. labour used in building the factories, steel used in making the factories and their machines), it was not possible to develop rationally supportable analyses. The result may be some overestimation of the British cost equivalent, along with a consequential understatement of the difference in manufacturing costs in the two locations.

TABLE D.2—ESTIMATED "IDEAL" COSTS<sup>1</sup> OF MANUFACTURING SELECTED TRACTORS, UNITED STATES AND BRITAIN, BASED ON HP SIZE

Make & Model	HP	North American Costs <sup>2</sup>	British Costs Projected for 1966-67	British Costs Projected for 1968-69
Ford 2000	31.2	\$1,969 <sup>4</sup>	\$1,514 <sup>4</sup>	\$1,420 <sup>4</sup>
IH 434 <sup>3</sup>	36.0	2,036	1,568	1,470
MF 135	37.8	2,061	1,588	1,489
Ford 3000	39.2	2,080	1,603	1,504
Study – Point 1	40.0	2,091	1,612	1,512
Ford 4000	46.7	2,184	1,686	1,582
MF 165	52.4	2,263	1,750	1,642
Ford 5000	56.0	2,313	1,790	1,680
MF 175	63.3	2,414	1,871	1,757
Ford 6000	66.9	2,464	1,911	1,795
Study – Point 2	90.0	2,785	2,168	2,037
Study – Point 3	130.0	3,788	2,972	2,786

<sup>1</sup> Based on Table D.1.

<sup>2</sup> All U.S. costs except Canadian (Ontario) labour costs, used because of detailed data available to Commission.

<sup>3</sup> Manufactured in Doncaster, England, only.

<sup>4</sup> All cost calculations developed from straight line cost formula between analyzed costs shown for study at Points 1 and 2.

Table D.2, "Estimated 'Ideal' Costs of Manufacturing Selected Tractors, United States and Britain, Based on HP Size", is based on costs set out in Table D.1.<sup>2</sup> It is obvious, of course, that the degree of accuracy in the resulting costs is not as great as that shown in the dollar numbers. The table assumes that all the tractors listed were built in exactly the same type of facility, with the same input costs, in the same volume, with the same level of labour and management

<sup>2</sup> Detailed costs for tractors of different horsepower were calculated, using a straight line formula between the points calculated for the "40" and "90" HP tractors in Table D.1.

TABLE D.3—ADJUSTMENTS TO “IDEAL” BRITISH MANUFACTURING COSTS FOR KNOWN AND ASSUMED COST DIFFERENCES, E.G. VOLUME, IMPORTATION OF PARTS INVOLVING PAYMENT OF DUTY, NEWNESS OF FACILITIES, ETC.

Company	Adjustments and Reasons
FORD	New plant at Basildon, England. With “perfect” production facilities, and statements of executives to Commission that their labour output equalled U.S. standards, no production cost penalty from “ideal” level assumed. Ford has pioneered in the use of modular construction concepts for tractor engines. <sup>1</sup> Ford, however, imports transmissions and rear axles from Antwerp, Belgium or Highland Park, U.S.A. With minimum cost of \$500-600 per tractor and 17.5% duty rate, this would involve penalty cost for tractors remaining in England (or EFTA) of about \$100. The same principle applies to duty paid on components imported into EEC countries. For example, when Ford exports tractors from its Antwerp plant, duty drawback on engines and their imported components applies only to shipments outside the Common Market.
INTERNATIONAL HARVESTER	Older plant at Bradford, England – smaller volume. About \$150 penalty cost on small 434 tractor.
MASSEY-FERGUSON	<p>Costs must be estimated for production in Britain (Coventry) and United States (Detroit). Older plant at Coventry, England – assume some labour inefficiencies. Increase British costs \$45 on MF 135 tractor and \$60 on MF 165 tractor; these penalties, pro-rata, would also be attracted to company’s Detroit plant as well. In addition, for Detroit, an adjustment is necessary to cover the reduction in assembly volume to 40,000 units in the United States and the loss of the advantage of purchasing components at higher volumes. These differences were estimated on the basis that the total reduction in cost between 60,000- and 120,000-volume levels (491 for “average” tractor in Table D.13) would be reduced by the proportion which the sum of “Value of Outside Purchased Components” and “Cost of Assembly” bears to “Total Tractor Costs”. A plant in the United States at less than 60,000-volume level would presumably be forced to purchase parts and organize its assembly operations at higher cost levels. Table D.13 provides the required cost data,</p> $\$491 \times \frac{\$1,828 + \$227}{\$3,412} = \$296$ <p>In turn, this equals 8.7 per cent of total costs. This percentage was used to develop volume penalties to be applied to the two machines in the two periods, as shown in Table D.5.</p>

<sup>1</sup> P. A. Martel, *The 1965 Ford Tractor Engine Family*, No. 984A (New York: Society of Automotive Engineers, Inc., January 11-15, 1965).

skills. Under such special circumstances, their costs might be expected to relate to their output horsepower along the general lines of Table D.2. This table ranks the different makes and models as if they were all made by a single company. No single company, of course, would be likely to have 36.0, 37.8, and 39.2 HP tractors in its line-up. Such close horsepower increments would not provide a marketing advantage. Two would be dropped in favour of the third – which two,



depending on the company's reading of the market. The production costs of all three would likely be approximately equal, but it is convenient to start off with the cost differences created by the use of the formula developed from the differences shown in Table D.1 to establish "ideal" production costs.

From these differences in costs for different makes and models of tractors made in an "ideal" facility, it is necessary to make very broad adjustments, based largely on personal judgements, to relate these so-called "ideal" costs to the level of costs probably incurred by the particular companies whose individual tractor costs and profits are to be reviewed. These adjustments are set out in Table D.3, "Adjustments to 'Ideal' British Manufacturing Costs".

A further complication ensues from the fact that while Ford and International Harvester bring tractors from their British plants directly to Canada, Massey-Ferguson supplies the Canadian market from a plant in Detroit, Michigan, where tractors are assembled from a combination of components imported from Britain and originating in North America. The company provided the Commission with a content breakdown by country of origin for two tractors, one representative of the group produced in Detroit and Coventry, and the other drawn from the larger tractors, produced only in North America.

	<u>MF 135 Diesel</u> (37.8 HP)	<u>MF 1100 Diesel</u> (93.9 HP)
Britain	56.1%	18.9%
Canada	4.0%	9.3%
United States	39.9%	71.8%
	100.0%	100.0% <sup>3</sup>

It is reasonable to assume that both the MF 135 and MF 165 tractors, built in Detroit, would have costs intermediate between the costs shown in Table D.2 for these models, made in "ideal" plants in Britain and the United States. Although the costs will probably be slightly closer to those of Britain because of the higher British content shown, a mid-point cost was selected.

To these numbers, still at the "ideal" volume level, an amount was added (calculated as shown in Table D.3) to represent the cost difference between the volume in the Detroit plant level and the "ideal" level. A further cost to be included is that of packing and shipping engines and other parts from Britain to Detroit, estimated at \$60 and \$70 a tractor for the two models. The total analysis is set out in Table D.4, "Estimated Production Costs for MF 135 and MF 165 Tractors Produced in Detroit".

The results of these cost estimates and adjustments for Ford, International Harvester, and Massey-Ferguson tractors are shown in Table D.5, Summary, Estimated Production Costs of Selected Tractors, ex Factory, for Profit Calculations.

In Table D.5 the cost estimates resulting from the various judgements and adjustments detailed above are rounded to the nearest \$25. It is unlikely – in fact it would be fortuitous and unexpected – if these costs represented closely

<sup>3</sup>Massey-Ferguson Industries Limited, Brief to the Royal Commission on Farm Machinery (1967), Vol. I, chap. iv, p. 20.



TABLE D.4—ESTIMATED PRODUCTION COSTS FOR MF 135 AND MF 165 TRACTORS PRODUCED IN DETROIT

	1966-67	1968-69
<b>MF 135</b>		
Estimated "ideal" U.S. cost (Table D.2)	\$2,061	\$2,061
Estimated "ideal" British cost (Table D.2)	\$1,588	\$1,489
Labour inefficiency penalty, Britain (Table D.3)	45	45
	\$1,633	\$1,534
Average (base U.S. cost)	1,633	1,534
Volume penalty, 8.7% (Table D.3)	\$1,847	\$1,798
Packing and ocean transportation	161	156
	60	60
	\$2,068	\$2,014
<b>MF 165</b>		
Estimated "ideal" U.S. cost (Table D.2)	\$2,263	\$2,263
Estimated "ideal" British cost (Table D.2)	\$1,750	\$1,642
Labour inefficiency penalty, Britain (Table D.3)	60	60
	\$1,810	\$1,702
Average (base U.S. cost)	1,810	1,702
Volume penalty, 8.7% (Table D.2)	\$2,037	\$1,983
Packing and ocean transportation	177	172
	70	70
	\$2,284	\$2,225

the actual costs for the tractors of particular companies. The purpose of these detailed estimates is to secure some general idea of the level of manufacturing costs experienced by the companies manufacturing tractors sold in Canada, in order to project profit estimates for sales in Canada and Britain.

### Comparative Post-Production Costs, Britain and Canada

This section of Appendix D sets out the methods used to calculate post-production costs in Canada and Britain on individual tractors by Ford, International Harvester and Massey-Ferguson. These costs are shown for particular tractors in Tables D.6 to D.9. Generally, the approach taken was to use industry averages and "typical" examples in computing representative cost relationships, usually as a percentage of suggested retail price (SRP). Individual costs, therefore, will not match exactly the costs incurred by the firms selected. In fact, the purpose of the analysis is to illustrate the profit levels achievable in Canada and Britain, given specific prices but average industry costs which existed before and after sterling devaluation. Each of the cost items shown in Tables D.6 to D.9 is discussed below.

#### 1) Price Paid by the Farmer for Tractors

Canada — 84 per cent of Canadian suggested retail price (SRP) (Table 3.3)  
 Britain — 93 per cent of British SRP (Table 3.3)

TABLE D.5—SUMMARY, ESTIMATED PRODUCTION COSTS OF SELECTED TRACTORS, EX FACTORY, FOR PROFIT CALCULATIONS

	Tractors Sold in Canada		Tractors Sold in Britain	
	1966	1968	1966	1968
<b>Ford</b>				
Ford 3000, source:	Basildon, England		Basildon, England	
Cost (Table D.2)	\$1,603	\$1,504	\$1,603	\$1,504
Plus duty cost on transmissions for tractors remaining in Britain (Table D.3)			90	90
Total	\$1,603	\$1,504	\$1,693	\$1,594
Rounded to:	\$1,600	\$1,500	\$1,700	\$1,600
Ford 5000, source:	Basildon, England		Basildon, England	
Cost (Table D.2)	\$1,790	\$1,680	\$1,790	\$1,680
Plus duty cost on transmissions for tractors remaining in Britain (Table D.3)			100	100
Total	\$1,790	\$1,680	\$1,890	\$1,780
Rounded to:	\$1,800	\$1,675	\$1,900	\$1,775
<b>International Harvester</b>				
IH 434, source:	Bradford, England		Bradford, England	
Cost (Table D.2)	\$1,568	\$1,470	\$1,568	\$1,470
Penalty cost (Table D.3)	150	150	150	150
Total	\$1,718	\$1,620	\$1,718	\$1,620
Rounded to:	\$1,725	\$1,625	\$1,725	\$1,625
<b>Massey-Ferguson</b>				
MF 135, source:	Detroit, Mich. U.S.A.		Coventry, England	
Cost (Tables D.4 and D.2)	\$2,068	\$2,014	\$1,588	\$1,489
Penalty cost (Table D.3)			45	45
Total	\$2,068	\$2,014	\$1,633	\$1,534
Rounded to:	\$2,075	\$2,025	\$1,625	\$1,525
MF 165, source:	Detroit, Mich. U.S.A.		Coventry, England	
Cost (Tables D.4 and D.2)	\$2,284	\$2,225	\$1,750	\$1,642
Penalty cost (Table D.3)			60	60
Total	\$2,284	\$2,225	\$1,810	\$1,702
Rounded to:	\$2,275	\$2,225	\$1,800	\$1,700

## 2) Net Wholesale Price (net selling price to the dealer)

Canada — 73 per cent of Canadian SRP (Table 3.3)

Britain — 82 per cent of British SRP based on a net dealer discount of 18 per cent (Table 3.3)

## 3) Ocean Freight: Britain to Canada

Ocean freight costs shown below include related expenses such as wharfage, port dues, insurance and brokerage.

Ford 3000 8-speed — estimated same as

International Harvester 434

\$132

TABLE D.6—ESTIMATED COST AND PROFIT DIFFERENTIALS, FORD 5000 8-SPEED DIESEL TRACTOR  
SOLD IN CANADA AND BRITAIN, 1968 SELLING SEASON  
(Canadian dollars)

	Canada Price/Cost	Canada Lower/(Higher) than Britain Price Cost	Profit	Britain Price/Cost	British Price or Cost as % of Canadian Price or Cost
Suggested retail price — Table 4.8	5,731	(2,696)		3,035	53
Price paid by the farmer	4,814	(memo only)		2,823	59
Net wholesale price to dealer	4,184	(memo only)		2,489	59
Total global company profit	1,196	(1,695)	(896)	300	25
Total global company costs	2,988			2,189	73
“Free season of use” finance plan	29		(29)		
“Pre-season” finance plan	40		(40)		
Dealer floor plan — used machines	57		(57)		
Dealer floor plan — new machines	224		(224)		
Selling general and administrative expenses	458		(171)		63
Additional selling, general and administrative expenses <sup>1</sup>	150		(150)		
Total global cost of goods sold	2,030			287	
Research and development	115			1,092	94
Company inventory carrying costs	69	(57)		115	100
Total global acquisition costs	1,846			12	17
Ocean shipping costs (Canada only)	171	(171)		1,775	96
Unit manufacturing costs — Table D.5	1,675			1,775	106
		(1,695) = (799)	+ (896)		

<sup>1</sup> Rough estimate of higher costs associated with Ford's small volume of Canadian business relative to its competitors.  
Source: See text of Appendix D for basis of computations.

TABLE D.7—ESTIMATED COST AND PROFIT DIFFERENTIALS, INTERNATIONAL HARVESTER 434 DIESEL TRACTOR  
SOLD IN CANADA AND BRITAIN, 1968 SELLING SEASON  
(Canadian dollars)

	Canada Price/Cost	Canada Lower/(Higher) than Britain Price/Cost	Profit	Britain Price/Cost	British Price or Cost as % of Canadian Price or Cost
Suggested retail price — Table 4.8	3,509	(1,208)		2,301	66
Price paid by the farmer		(memo only)			
Net wholesale price to dealer	2,948	(808)		2,140	73
Total global company profit	2,562	(memo only)		1,887	74
Total global company costs	197	(675)	(189)	8	4
“Free season of use” finance plan	2,365			1,879	79
“Pre-season” finance plan	18	(18)			
Dealer floor plan — used machines	25	(25)			
Dealer floor plan — new machines	35	(35)			
Selling, general and administrative expenses	137	(137)			
Total global cost of goods sold	281	(106)			
Research and development	1,869			175	62
Company inventory carrying costs	70			1,704	91
Total global acquisition costs	42	(33)		70	100
Ocean shipping costs (Canada only)	1,757			9	21
Unit manufacturing costs — Table D.5	132	(132)		1,625	92
	1,625			1,625	100
		(675) = (486)	+ (189)		

Source: See text of Appendix D for basis of computations.

TABLE D.8- ESTIMATED COST AND PROFIT DIFFERENTIALS, MF 165 DIESEL TRACTOR  
SOLD IN CANADA AND BRITAIN (ASSUMING PRODUCTION IN DETROIT AND COVENTRY, RESPECTIVELY), 1968 SELLING SEASON  
(Canadian dollars)

	Canada Price/Cost	Canada Lower/(Higher) than Britain		British Price or Cost as % of Canadian Price or Cost
		Price	Cost	
Suggested retail price - Table 4.8	4,976	(2,014)		60
Price paid by the farmer	4,180	(memo only) (1,425)		66
Net wholesale price to dealer	3,632	(memo only) (1,203)		67
Total global company profit	545		(177)	68
Total global company costs	3,087			67
"Free season of use" finance plan	25		(25)	
"Pre-season" finance plan	35		(35)	
Dealer floor plan - used machines	50		(50)	
Dealer floor plan - new machines	194		(194)	
Selling general and administrative expenses	398		(149)	
Total global cost of goods sold	2,385			63
Research and development	100			76
Company inventory carrying costs	60		(48)	100
Total global acquisition costs, same as unit manufacturing costs - Table D.5 (Ocean shipping costs for components included, - Table D.4)	2,225	(1,203)	(525)	20
			(1,026)	76
			+	(177)

Source: See text of Appendix D for basis of computations.



TABLE D.9—ESTIMATED COST AND PROFIT DIFFERENTIALS, MF 165 DIESEL TRACTOR  
SOLD IN CANADA AND BRITAIN (ASSUMING PRODUCTION IN BRITAIN FOR BOTH MARKETS), 1968 SELLING SEASON  
(Canadian dollars)

	Canada Price/Cost	Canada Lower/(Higher) than Britain			British Price or Cost as % of Canadian Price or Cost
		Price	Cost	Profit	
Suggested retail price — Table 4.8	4,976	(2,014)			60
Price paid by the farmer		(memo only)			
Net wholesale price to dealer	4,180	(1,425)			66
Total global company profit	3,632	(memo only)			
Total global company costs	899	(1,203)		(531)	67
“Free season of use” finance plan	2,733				41
“Pre-season” finance plan	25		(25)		75
Dealer floor plan — used machines	35		(35)		
Dealer floor plan — new machines	50		(50)		
Selling, general and administrative expenses	194		(194)		
Total global cost of goods sold	398		(149)		
Research and development	2,031				
Company inventory carrying costs	100				
Total global acquisition costs	60		(48)		63
Ocean shipping costs (Canada only)	1,871				89
Unit manufacturing costs — Table D.5	171		(171)		100
	1,700				20
					91
		(1,203)	= (672)	+ (531)	100

Source: See text of Appendix D for basis of computations.

<i>Costs and Profits, Tractor Manufacturing and Distribution</i>	175
Ford 5000 8-speed <sup>4</sup>	\$171
International Harvester 434 <sup>5</sup>	\$132
Massey-Ferguson 135 – estimated same as International Harvester 434	\$132
Massey-Ferguson 165 – estimated same as Ford 5000 8-speed	\$171

The Massey-Ferguson tractors are similar in dimensions to the tractors of the other two companies from which estimates have been made, although Massey-Ferguson estimated ocean shipping cost for the MF 135 tractor at \$100 in the hearings,<sup>6</sup> it would appear that related costs had not been included in this estimate.

#### 4) *Company Inventory Carrying Cost*

The cost of investment in company inventory was determined from industry averages of the transfer price of all farm machinery, inventory turnover and an assumed interest cost. For simplicity of calculation, this cost has been estimated for one tractor, the Ford 5000 8-speed, for the 1967 selling season, and the relationship between the resulting amount and list price has been used to compute the cost for all other models in all selling seasons. It should be emphasized that the transfer price relationship assumed below (61 per cent of SRP) is not the transfer price used by Ford or any of the other companies. As with most of the other cost relationships shown in this appendix, the figure is typical of the farm machinery industry, rather than a particular company.

The estimate follows:

List price of Ford 5000 8-speed	<u>\$5,465</u>
Transfer price to Canadian affiliate estimated at 61 per cent of list price (Table 3.1)	\$3,334
Ocean freight (see part 3)	<u>171</u>
Acquisition cost	<u>\$3,505</u>
Inventory holding period for finished goods – based on average finished goods inventory turnover (cost of sales divided by average monthly finished goods inventory) in Canada of 4 X per year	3 months
Interest cost estimated same as in <i>Farm Tractor Production Costs</i> , p. 155	7.5%

<sup>4</sup> The figure was based on the testimony given by R.E. Cudmore, General Manager, Ford Motor Company of Canada, *Hearings, Royal Commission on Farm Machinery*, Vol. XXXI (1967), p. 3302.

<sup>5</sup> The figure was based on the testimony given by E.I. Edmonds, Secretary, International Harvester Company of Canada, Limited, *Hearings, Royal Commission on Farm Machinery*, Vol. XXXIII (1967), p. 3570.

<sup>6</sup> The figure was based on the testimony given by P.N. Breyfogle, Comptroller, Massey-Ferguson Industries Inc., *Hearings, Royal Commission on Farm Machinery*, Vol. XXXVII (1968), p. 4178.

Cost of carrying company inventories:

Acquisition cost x inventory holding period x interest  
cost

$3,505 \times 3/12 \times 0.075$  \$ 66

Percentage of Canadian SRP 1.2%

This percentage figure has been used to compute  
company inventory carrying cost for each of the tractors.

#### *Britain*

Inventory holding period — estimated at one-third the  
Canadian period 1 month

Interest cost — estimated same as Canada 7.5%

Manufacturing cost (Table D.5) \$1,900

Cost of carrying company inventories:

Manufacturing cost x inventory holding period x  
interest cost

$1,900 \times 1/12 \times 0.075$  \$ 12

Percentage of British SRP 0.4%

#### 5) *Dealer Floor Plan — New Machines*

The average cost of floor plan financing has been estimated at 3.9 per cent of the suggested retail price level. Again, the Ford 5000 tractor is used for illustrative purposes.

List price \$5,465

Less industry average trade discount of 23% excluding  
volume bonus (Table A.1) 1,257

Invoice price to the dealer 4,208

Inland freight — estimated average 100

Wholesale note receivable total \$4,308

Interest rate — estimated same as in *Farm Tractor*  
*Production Costs*, p. 155 7.5%

Term of note — estimated based on average of terms stated  
by Massey-Ferguson (6 months)<sup>7</sup> and International  
Harvester (10 months)<sup>8</sup> 8 months

Dealer floor plan cost — new machines:

$4,308 \times 8/12 \times 0.075$  \$ 215

Percentage of Canadian SRP 3.9%

Since British distributors do not finance dealer inventories, there are no comparable costs.

<sup>7</sup> *Ibid.*, p. 4177.

<sup>8</sup> C.C. Brannan, President, International Harvester Company of Canada, Limited, *Hearings, Royal Commission on Farm Machinery*, Vol. XXXIII (1967), p. 3587.

6) *Other Inventory Finance Costs – Canada Only*

Canadian distributors of farm machinery also incur a number of other costs related to dealer and farmer inventories. With respect to dealer inventories the costs are: floor plan on used equipment, insurance, bad debts and warranty service. Only the floor plan on used equipment will be considered here since the other items are included in selling expenses of the firms. Distributors also have pre-season finance plans and free season of use plans, both of which are related to machines in the possession of farmers. Estimates have also been prepared for these two items. The computations follow, again based on the Ford 5000 as a representative example.

*Dealer Floor Plan – Used Equipment*

This cost has been estimated at 25 per cent of the cost of floor plan financing for new machinery, 25% of 3.9% of SRP or 1.0 per cent of SRP.

*Pre-Season Finance Plan*

List price	\$5,465
Price paid by the farmer – 84%	\$4,591
Inland freight – estimated average	100
Less trade-in, rough estimate, no data available on average trade-in figures	(1,500)
Amount of note	<u>\$3,191</u>
Using an interest cost of 7.5 per cent and the full pre-season term of 8 months, <sup>9</sup> the maximum cost would be:	
3,191 x 6/12 x 0.075	<u>\$ 160</u>

Since all customers do not take advantage of the plan for the full term, the “average” cost has been estimated at 25 per cent of maximum, \$40 or 0.7 per cent of SRP.

*Free Season of Use Finance Plan*—Massey-Ferguson described this plan as follows:

From time-to-time, the company offers limited-duration programs of financial assistance to the farmer. These might be considered sales promotion programs as opposed to the company’s on-going financial assistance plans. Such special programs may be limited to one item of machinery or they may include the entire line; their durations vary; and the specific features which encourage the potential customer to buy may also vary. One such current program, initiated in July 1967, waives finance charges until January 1968 on the purchase of any new or used MF agricultural tractor.<sup>10</sup>

<sup>9</sup>Massey-Ferguson Industries Limited, *op. cit.*, Vol. II, chap. x, p. 35.

<sup>10</sup>*Ibid.*, pp. 36-7.

Assuming an interest cost of 7.5 per cent and a term of 6 months as stated by Massey-Ferguson, the maximum cost, related to the Ford 5000 tractor, would be as follows:

$$3,191 \times 6/12 \times 0.075 = \$120$$

As with the pre-season finance plan all customers will not take advantage of the plan for the full term: the "average" cost has been estimated, therefore, at 25 per cent of maximum, \$30 or 0.5 per cent of Canadian SRP.

#### 7) *Selling, General and Administrative Expenses*

*Canada*—From financial returns of the major firms selling in Canada, selling, general and administrative expenses approximated 10 per cent of net sales to dealers in 1965 and 1966. Corporate results, based on annual reports for these same two years, showed that these costs for Deere and International Harvester were 11 per cent of net sales to dealers while Massey-Ferguson's costs were 12 per cent. Since the corporate results include certain "head-office" costs for market planning and corporate administration, this data source has been used rather than the Canadian information. Using corporate results for Deere and International Harvester as representative of the industry level, selling, general and administrative expenses would be 11 per cent of net sales to dealers, or 8 per cent of the Canadian suggested retail price level.

*Britain*—Selling costs are lower in Britain than in Canada because of shorter distances, less warehousing for finished goods, larger sales volume per dealer and lower wage rates. Selling, general and administrative expenses for Britain have been estimated, therefore, at two-thirds of the level in Canada. This amounts to 5 per cent of Canadian SRP.

#### 8) *Research and Development (R&D)*

R&D expenditures for Massey-Ferguson, International Harvester, and Deere, have been 2, 3, and 4 per cent of net sales to dealers, respectively, based on 11-year averages. Assuming that 3 per cent is a representative figure for Canada, R&D has been estimated at 2 per cent of Canadian SRP. The same dollar figure has been used in Britain as in Canada.

Tables D.6 to D.9 project production and post-production cost differentials for tractors sold in Canada and Britain after the 1967 devaluation of the pound sterling. Specific Ford, International Harvester and Massey-Ferguson tractors are shown:

—the Ford 5000 on Table D.6

—the IH 434 on Table D.7

—the MF 165 on Table D.8 (with Canadian market requirements sourced, as is the case, to Massey-Ferguson's Detroit plant)

—the MF 165 on Table D.9 (with Canadian market requirements sourced in Britain).

With the net wholesale price in the two markets, Canada and Britain, known, and the cost differences estimated as shown on Tables D.6 to D.9, the residual



amount between the price and cost difference must be assumed to be the profit difference earned by the world corporation in the two markets. This is shown in the last line of each of the tables as an equation: "Price Difference" = "Cost Difference" plus "Profit Difference".

Similar cost differences were projected for the five tractors, using costs before and after sterling devaluation. These are shown in summary form only in the case of the other tractors and the pre-devaluation period in Tables D.10 and D.11.

TABLE D.10—ESTIMATED PRICES, COSTS, AND PROFITS,  
VARIOUS DIESEL TRACTORS SOLD IN CANADA AND BRITAIN,  
1967 SELLING SEASON PRE-DEVALUATION

(Canadian dollars)

	Tractor Sold in Canada	Canada Lower/ (Higher) than Britain	Tractor Sold in Britain	British as Percentage of Canadian
Ford 3000 8-speed				
Net wholesale price	2,611	(491)	2,120	81
Total costs	2,452	(491)	1,961	80
Corporate profit before tax	159	—	159	100
Ford 5000 8-speed				
Net wholesale price	3,989	(1,357)	2,632	66
Total costs	3,066	(771)	2,295	75
Corporate profit before tax	923	(586)	337	37
International Harvester 434				
Net wholesale price	2,480	(345)	2,135	86
Total costs	2,446	(473)	1,973	81
Corporate profit before tax	34	128	162	476
Massey-Ferguson: Final assembly in Detroit for tractors sold in Canada				
MF 135				
Net wholesale price	2,570	(558)	2,012	78
Total costs	2,684	(803)	1,881	70
Corporate profit [loss] before tax	[114]	245	131	—
MF 165				
Net wholesale price	3,608	(1,036)	2,572	71
Total costs	3,130	(971)	2,159	69
Corporate profit before tax	478	(65)	413	86
Massey-Ferguson: Final assembly in Coventry for tractors sold in Canada				
MF 135				
Net wholesale price	2,570	(558)	2,012	78
Total costs	2,366	(485)	1,881	80
Corporate profit before tax	204	(73)	131	64
MF 165				
Net wholesale price	3,608	(1,036)	2,572	71
Total costs	2,826	(667)	2,159	76
Corporate profit before tax	782	(369)	413	53

Source: See text of Appendix D for basis of computations.

TABLE D.11—ESTIMATED PRICES, COSTS, AND PROFITS,  
VARIOUS DIESEL TRACTORS SOLD IN CANADA AND BRITAIN,  
1968 SELLING SEASON

(Canadian dollars)

	Tractor Sold in Canada	Canada Lower/ (Higher) than Britain	Tractor Sold in Britain	British as a Percentage of Canadian
Ford 3000 8-speed				
Net wholesale price	2,843	(923)	1,920	68
Total costs	2,406	(524)	1,882	78
Corporate profit before tax	437	(399)	38	9
Ford 5000 8-speed				
Net wholesale price	4,184	(1,695)	2,489	59
Total costs	2,988	(799)	2,189	73
Corporate profit before tax	1,196	(896)	300	25
International Harvester 434				
Net wholesale price	2,562	(675)	1,887	74
Total costs	2,365	(486)	1,879	79
Corporate profit before tax	197	(189)	8	4
Massey-Ferguson: Final assembly in Detroit for tractors sold in Canada				
MF 135				
Net wholesale price	2,723	(912)	1,811	67
Total costs	2,670	(874)	1,796	67
Corporate profit before tax	53	(38)	15	28
MF 165				
Net wholesale price	3,632	(1,203)	2,429	67
Total costs	3,087	(1,026)	2,061	67
Corporate profit before tax	545	(177)	368	68
Massey-Ferguson: Final assembly in Coventry for tractors sold in Canada				
MF 135				
Net wholesale price	2,723	(912)	1,811	67
Total costs	2,302	(506)	1,796	78
Corporate profit before tax	421	(406)	15	4
MF 165				
Net wholesale price	3,632	(1,203)	2,429	67
Total costs	2,733	(672)	2,061	75
Corporate profit before tax	899	(531)	368	41

Source: See text of Appendix D for basis of computations.

#### Profit Differentials Between Canada and Britain

For the sample of tractors shown in Tables D.10 and D.11, over-all corporate profits are generally higher in Canada than in Britain. Table D.12 sets out the resulting profit differentials between the two countries. These results show that profits are higher in Canada than in Britain except for the International Harvester 434 and the Massey-Ferguson MF 135 tractor (sourced in Detroit) in the 1967 selling season.

TABLE D.12—PROFIT DIFFERENTIALS BETWEEN CANADA AND BRITAIN,  
SELECTED TRACTORS, 1967 AND 1968 SELLING SEASONS, PROFIT  
LOWER/(HIGHER) IN CANADA THAN IN BRITAIN  
(Canadian dollars)

	Pre-devaluation	Post-devaluation
	1967 Selling Season	1968 Selling Season
Ford 3000 8-speed		(399)
Ford 5000 8-speed	(586)	(896)
International Harvester 434	128	(189)
Massey-Ferguson		
Assuming production in Detroit for tractors sold in Canada		
Massey-Ferguson 135	245	(38)
Massey-Ferguson 165	(65)	(177)
Assuming production in Coventry for tractors sold in Canada		
Massey-Ferguson 135	(73)	(406)
Massey-Ferguson 165	(369)	(531)

Source: Tables D.10 and D.11.

Although individual items of cost are generally higher in Canada than in Britain, Canadian wholesale prices are sufficiently higher than those in Britain that higher profits are inevitably made in Canada. Since the differences in net wholesale prices between Canada and Britain have been discussed in the text, only cost differences will be reviewed here. The extent of cost differences is revealed in the figures showing British total cost as a percentage of Canadian total cost. For the tractors analyzed, British total costs ranged from 73 to 81 per cent of Canadian total costs for tractors sourced in Britain. For the two Massey-Ferguson tractors sourced in Detroit, British total costs as a percentage of Canadian total costs were predictably much lower (67 to 70 per cent) because of higher manufacturing costs for the tractors assembled in Detroit, for sale in Canada.

Higher Canadian costs stem from four factors. Financing of dealer inventories and finance plans for farmers are not in use in Britain, resulting in higher Canadian costs. In total, these finance costs (see sections 5 and 6 of Part 2 of Appendix D) have been estimated at 6.1 per cent of the Canadian list price level. Most of these finance costs are taken up by the floor plan on new machines — 3.9 per cent of Canadian SRP. Thus a tractor which lists at \$5,000 would have related finance costs of about \$300. Ocean freight to bring tractors from Britain to Canada is a second inescapable cost incurred only in Canada. Ocean freight on the Ford 5000 tractor, for example, is \$171 or approximately 3 per cent of the Canadian list price. Selling, general and administrative expenses are also higher in Canada. For example, these costs on the Massey-Ferguson MF 165 tractor (1968 selling season) were \$149 higher in Canada than in Britain (Table D.9). No doubt, most of this differential results from higher selling expenses in Canada because of larger distribution distances, and lower sales volume per dealer in Canada. Finally, company inventory carrying costs are shown as higher in Canada than in Britain, although the difference is not larger — \$48 for the Massey-Ferguson MF 165 in the 1968 selling season (Table D.9).

## Technical Note to Appendix D

PROCEDURES USED TO ESTIMATE TRACTOR  
PRODUCTION COSTS IN BRITAIN

The Study, *Farm Tractor Production Costs*<sup>11</sup> estimated the production costs of a tractor plant in North America. This Technical Note to Appendix D sets out in detail the procedures and the sources of data used in adjusting those costs to the costs of a tractor plant in Britain. From the analysis of costs by process and by type of cost within each process a mass of detailed data became available, either directly or through additional analyses described under (1) Adjustments to Study Data below.

From the detailed data available, the cost of each component operation was developed. Thus, it was possible to transfer the cost structure of the Study to other locations, using equivalent costs for the same cost inputs or through a reasonable process of estimation. These procedures are described under (2) Details of Cost Analysis Used to Bring Basic Data to British Cost Levels.

To the unit costs developed for the two locations at the same 60,000-unit volume level, certain adjustments were made for the much higher production volumes found in certain British plants, for the use of modular construction techniques, and for the probable over-estimation of the cost of purchased parts in the original Study. These adjustments are detailed under (3) Adjustments to Costs After Basic Analysis. A final adjustment was made to take the costs in U.S. dollars to Canadian dollars.

The results of the three-stage analysis are shown in Table D.13, "Detailed Analysis of Comparative Tractor Unit Manufacturing Costs, North America (United States) and Britain before and after 1967 Sterling Devaluation". The table is divided vertically into three sections, each of four columns. The first four columns largely repeat data from the Study with some necessary additions described in (1) below; the remaining eight columns estimate equivalent British costs before and after the 1967 devaluation of sterling. The table is divided horizontally into two parts: the comparison of basic costs based on the analysis described in (2) below, and the adjustments to these comparisons described in (3) below. The first part, relating to the comparison of basic costs, is itself divided into certain component cost factors, Purchased Parts, Manufactured Components (itself subdivided into headings covering the Foundry, Machining Operations and the Stamping Plant), and Assembly Operations.

## (1) Adjustments to Study Data

From the Study, four tractor costs at 60,000-unit volume were available. Table 40\* and its supporting tables covering separate plants and processes gave the costs for an average tractor, broken down into the cost factors shown. Table A51-1\* gave the costs for tractors in three horsepower ranges, 40 HP, 90 HP, and 130 HP, derived from the estimated costs (Table 40\*) for the average tractor produced in the plant.<sup>12</sup> However, some of the data required to make

<sup>11</sup> Royal Commission on Farm Machinery, *op. cit.* Table references in this note which are marked\* refer to tables in the Study.

<sup>12</sup> The cost shown for the average tractor in the Study is a combination of the cost of purchased parts for the mid-range (90 HP) tractor and manufacturing costs for the average of the mix of tractors produced in the plant (40 HP, 90 HP, and 130 HP). Thus, the purchased parts cost shown for the mid-range tractor, \$1,828, overstates the purchased cost for the average tractor, which should have been derived by weighting the estimated cost of purchased materials shown for each tractor size by its proportion in the production mix, as follows:

$$\begin{array}{rcl} \$1,358 \times 30\% & = & \$ 407 \\ \$1,828 \times 60\% & = & \$1,097 \\ \$2,400 \times 10\% & = & \$ 240 \\ & & \$1,744 \end{array}$$

This reduction in cost of purchased parts, \$84, would reduce the total cost shown in line 43 of Table D.13 from \$3,412 to \$3,328 which is almost precisely the weighted average of the total cost of each of the three sizes of tractor, \$3,327.



the detailed analysis were missing. The following notes describe how these were constructed from the available data.

1) *Division of Combined Tire and Battery Costs into Separate Categories*

In Table A51-1\*, a combined cost for Tires and Battery was shown. It was necessary to split this cost between the two items in order to be able to apply appropriate cost relationships. Battery costs were estimated from Canadian battery retail price levels\* to secure a rough approximation of procurement costs to the tractor manufacturer. The battery prices are high estimates, but have the effect of reducing the residue assigned to tires. Since lower tire costs in Britain form a significant part of the cost difference developed in this note, a higher estimate for battery costs is conservative.

	Small	Medium	Large
Combined total (Table A51-1*)	\$ 265	\$ 600	\$ 790
Battery estimate	20	30	35
Tires (residual)	\$ 245	\$ 570	\$ 755

2) *Breakdown of Foundry Costs for Particular Tractors by Input Cost Factors, and Projection of Equivalent British Costs*

Initially, the data available from the Study covered average tractor foundry costs (Table D.13, lines 14-19), plus an estimate of total costs only (line 19), for each tractor size based on the weight of castings in each size of tractor. The development of the estimate of equivalent British costs for each cost factor, covered under other notes below, required that the costs in lines 14-18 be developed for the three separate tractors as well.

For each separate tractor size it was necessary initially to develop cost estimates for each separate cost factor (lines 14-18) as follows:

*Material Costs:* Material costs for castings were calculated using the weight of the finished castings in the average tractor (2.3 tons) and the weight of the castings in the separate tractors (1.25, 2.5, and 4.3 tons).

*Operating Expense:* This cost was calculated, as were material costs, on the basis of the finished weight of castings in the tractor.

*Allocated Support Costs:* Throughout the Study's analysis of the costs of separate tractors, allocated support costs were considered the same for all sizes of tractors.

*Labour and Fixed Costs:* A residual amount now remained to be allocated, made up of labour and fixed costs. The proportion between labour and fixed costs in the cost of the average tractor was then used to estimate these cost factors for the different sized tractors. Pro-ration of labour and support costs on the basis of finished casting weights was not possible if the pattern of allocated support costs being kept constant was to be maintained.

It should be noted that the determination of fixed costs for each size of tractor in this way had a carry-over effect on the development of British costs described under (2) below. Fixed costs shown in the Study were assumed to be carried over to British costs, unchanged. In Sections II and III of Table D.13, the assumed labour costs for tractors of different horsepowers were developed as the residual, after the material costs, operating expense, fixed costs, and allocated support costs had been deducted.

(2) *Details of Cost Analysis Used to Bring Basic Data to British Cost Levels*

A variety of sources was used to secure comparable data to develop parallel cost estimates for each cost factor in Britain. These are detailed below on a item-by-item basis, with reference numbers relating the adjustments to particular parts of Table D.13. Certain basic points were, however, established for the whole analysis, and are shown separately at the beginning of the notes. They are referred to, in many cases, in subsequent notes.



TABLE D.13—DETAILED ANALYSIS OF COMPARATIVE TRACTOR UNIT MANUFACTURING COSTS, NORTH AMERICA (UNITED STATES) AND BRITAIN BEFORE AND AFTER 1967 STERLING DEVALUATION

(U.S. dollars)

References in Parentheses are to Numbers in Technical Note to Appendix D

North American (U.S.) Costs 1967-68 Period 60,000-Unit Volume				
	Table 40*	Table A51-1*		
	Average + Mid-Range	Small Range (40 HP)	Mid- Range (90 HP)	Large Range (115 HP)
	(1)	(2)	(3)	(4)
<b>I Purchased Parts</b>				
Not subject to make-buy decision				
1 Tires		\$ 245(1-1)	\$ 570(1-1)	\$ 755(1-1)
2 Batteries		20(1-1)	30(1-1)	35(1-1)
3 Other items		280	329	445
4 Purchased assemblies		470	491	665
5 Total	\$1,420	\$1,015	\$1,420	\$1,900
Subject to make-buy decision				
6 Castings		95	126	160
7 Forgings		50	61	70
8 Stampings		128	145	170
9 Steel bars		30	32	45
10 Tubing		38	42	53
11 Aluminum		2	2	2
12 Total	\$ 408	\$ 343	\$ 408	\$ 500
13 Total Purchased Parts	\$1,828	\$1,358	\$1,828	\$2,400
<b>II Manufactured Components</b>				
Foundry costs (Table 17*)				
14 Materials costs (3,3 tons)	\$ 182	\$ 99(1-2)	\$ 198(1-2)	\$ 340(1-2)
15 Labour costs	100	39(1-2)	111(1-2)	210(1-2)
16 Operating expense	52	28(1-2)	57(1-2)	97(1-2)
17 Fixed costs	156	62(1-2)	173(1-2)	334(1-2)
18 Allocated support costs	81	81(1-2)	81(1-2)	81(1-2)
19 Total foundry costs	\$ 571	\$ 309	\$ 620	\$1,066
	for 2.3 tons	for 1.25 tons	for 2.5 tons	for 4.3 tons
Machining operations (Table 27*)				
20 Materials costs (Table A7-1*)				
21 Forgings	\$ 105	\$ 103	\$ 103	\$ 136
22 Aluminum	8	6	8	10
23 Steel bars	12	8	12	14
24 Tubing	20	17	20	24
25 Total materials costs	\$ 145	\$ 134	\$ 143	\$ 184
26 Labour costs	170	153	170	221
27 Operating expense	32	30	32	35
28 Fixed costs	155	140	155	201
29 Allocated support costs	123	123	123	123
30 Total machining costs	\$ 625	\$ 580	\$ 623	\$ 764

TABLE D.13 (Continued)

Projection British Costs (1966-67 Level Costs)				Projection British Costs (1968-69 Level Costs)			
Average + Mid-Range	Small Range (40 HP)	Mid- Range (90 HP)	Large Range (115 HP)	Average + Mid-Range	Small Range (40 HP)	Mid- Range (90 HP)	Large Range (115 HP)
(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	\$ 196(2-6)	\$ 456(2-6)	\$ 604(2-6)		\$ 185(2-6)	\$ 428(2-6)	\$ 567(2-6)
	19(2-7)	28(2-7)	33(2-7)		18(2-7)	27(2-7)	31(2-7)
	224(2-8)	263(2-8)	356(2-8)		210(2-8)	247(2-8)	334(2-8)
	390(2-9)	410(2-9)	568(2-9)		358(2-9)	375(2-9)	514(2-9)
\$1,157	\$ 829	\$1,157	\$1,561	\$1,077	\$ 771	\$1,077	\$1,446
	\$ 73(2-10)	\$ 97(2-10)	\$ 124(2-10)		\$ 70(2-10)	\$ 93(2-10)	\$ 118(2-10)
	39(2-10)	47(2-10)	54(2-10)		37(2-10)	45(2-10)	52(2-10)
	107(2-11)	122(2-11)	143(2-11)		99(2-11)	112(2-11)	131(2-11)
	23(2-10)	25(2-10)	35(2-10)		22(2-10)	24(2-10)	33(2-10)
	29(2-10)	32(2-10)	41(2-10)		28(2-10)	31(2-10)	39(2-10)
	2(2-10)	2(2-10)	2(2-10)		2(2-10)	2(2-10)	2(2-10)
\$ 325	\$ 273	\$ 325	\$ 399	\$ 307	\$ 258	\$ 307	\$ 375
\$1,482	\$1,102	\$1,482	\$1,960	\$1,384	\$1,029	\$1,384	\$1,821
\$ 158(2-12)	\$ 86(2-12)	\$ 172(2-12)	\$ 295(2-12)	\$ 142(2-12)	\$ 77(2-12)	\$ 154(2-12)	\$ 265(2-12)
50(2-13)	26(2-13)	55(2-13)	97(2-13)	48(2-13)	26(2-13)	54(2-13)	92(2-13)
47(2-14)	26(2-14)	51(2-14)	88(2-14)	46(2-14)	25(2-14)	50(2-14)	86(2-14)
156	62	173	334	156	62	173	334
52(2-15)	52(2-15)	52(2-15)	52(2-15)	51(2-15)	51(2-15)	51(2-15)	51(2-15)
\$ 463	\$ 252	\$ 503	\$ 866	\$ 443	\$ 241	\$ 482	\$ 828
for 2.3 tons	for 1.25 tons	for 2.5 tons	for 4.3 tons	for 2.3 tons	for 1.25 tons	for 2.5 tons	for 4.3 tons
\$ 80(2-16)	\$ 78(2-16)	\$ 78(2-16)	\$ 103(2-16)	\$ 70(2-16)	\$ 68(2-16)	\$ 68(2-16)	\$ 90(2-16)
8(2-17)	6(2-17)	8(2-17)	10(2-17)	8(2-17)	6(2-17)	8(2-17)	10(2-17)
10(2-18)	7(2-18)	10(2-18)	12(2-18)	8(2-18)	5(2-18)	8(2-18)	10(2-18)
16(2-19)	14(2-19)	16(2-19)	20(2-19)	14(2-19)	12(2-19)	14(2-19)	16(2-19)
\$ 114	\$ 105	\$ 112	\$ 145	\$ 100	\$ 91	\$ 98	\$ 126
84(2-20)	76(2-20)	84(2-20)	109(2-20)	80(2-20)	72(2-20)	80(2-20)	104(2-20)
29(2-21)	27(2-21)	29(2-21)	32(2-21)	29(2-21)	27(2-21)	29(2-21)	32(2-21)
155	140	155	201	155	140	155	201
79	79	79	79	77	77	77	77
\$ 461	\$ 427	\$ 459	\$ 566	\$ 441	\$ 407	\$ 439	\$ 540

TABLE D.13 (Continued)

North American (U.S.) Costs 1967-68 Period 60,000-Unit Volume				
	Table 40*	Table A51-1*		
	Average + Mid-Range	Small Range (40 HP)	Mid- Range (90 HP)	Large Range (115 HP)
	(1)	(2)	(3)	(4)
<b>II (Concluded)</b>				
Stamping plant costs (Table 23*)				
31 Materials costs	\$ 70	\$ 57	\$ 76	\$ 84
32 Labour costs	33	31	30	37
33 Operating expense	10	9	10	12
34 Fixed costs	25	25	24	28
35 Allocated support costs	23	23	23	23
36 Total stamping plant costs	\$ 161	\$ 145	\$ 163	\$ 184
37 Total, Manufactured Components	\$1,357	\$1,034	\$1,406	\$2,014
<b>III Assembly Operations</b>				
38 Labour costs	\$ 82	\$ 72	\$ 85	\$ 106
39 Operating expense	41	39	41	45
40 Fixed costs	48	42	49	61
41 Allocated support costs	56	56	56	56
42 Total Assembly Operations	\$ 227	\$ 209	\$ 231	\$ 268
43 Total, Tractor Manufacturing	\$3,412	\$2,601	\$3,465	\$4,682
<b>IV Adjustments</b>				
(Tractor Cost Study)				
44 Decrease in costs 60-90,000 volume	\$ 291(3-1)	\$ 218(3-2)	\$ 295(3-2)	\$ 399(3-2)
45	\$3,121	\$2,383	\$3,170	\$4,283
46 Estimated decrease to 120,000 + volume	200(3-3)	152(3-3)	203(3-3)	274(3-3)
47	\$2,921	\$2,231	\$2,967	\$4,009
48 Tractor Cost Study – effect of modular construction at 60,000 (higher at higher volumes)	25(3-4)	25(3-4)	25(3-4)	25(3-4)
49 Adjusted Total, Tractor Manufacturing Costs	\$2,896	\$2,206	\$2,942	\$3,984
50 Less probable over-allowance for purchased parts (20% of purchased parts value shown)	\$ 366(3-5)	\$ 272(3-5)	\$ 366(3-5)	\$ 480(3-5)
51 Adjusted total, \$U.S.	\$2,530	\$1,934	\$2,576	\$3,504
52 Convert to \$ Cdn. (\$1.081Cdn.= \$1 U.S.)	\$2,735	\$2,091	\$2,785	\$3,788
53		30%	60%	10%
54 Weighted Average – 3		\$2,677		
55 Weighted Average – 2		\$2,298		
56 Reduction in average cost, if larger tractor size omitted		\$ 379		

TABLE D.13 (Concluded)

Projection British Costs (1966-67 Level Costs)				Projection British Costs (1968-69 Level Costs)				
Average + Mid-Range	Small Range (40 HP)	Mid- Range (90 HP)	Large Range (115 HP)	Average + Mid-Range	Small Range (40 HP)	Mid- Range (90 HP)	Large Range (115 HP)	
(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
\$ 70(2-22)	\$ 57(2-22)	\$ 76(2-22)	\$ 84(2-22)	\$ 60(2-22)	\$ 49(2-22)	\$ 66(2-22)	\$ 73(2-22)	31
16(2-23)	15(2-23)	15(2-23)	18(2-23)	16(2-23)	15(2-23)	15(2-23)	18(2-23)	32
9(2-24)	8(2-24)	9(2-24)	11(2-24)	9(2-24)	8(2-24)	9(2-24)	11(2-24)	33
25	25	24	28	25	25	24	28	34
15	15	15	15	14	14	14	14	35
\$ 135	\$ 120	\$ 139	\$ 156	\$ 124	\$ 111	\$ 128	\$ 144	36
\$1,059	\$ 799	\$1,101	\$1,588	\$1,008	\$ 759	\$1,049	\$1,512	37
\$ 41(2-25)	\$ 36(2-25)	\$ 43(2-25)	\$ 53(2-25)	\$ 39(2-25)	\$ 34(2-25)	\$ 40(2-25)	\$ 50(2-25)	38
39(2-26)	37(2-26)	39(2-26)	43(2-26)	38(2-26)	36(2-26)	38(2-26)	42(2-26)	39
48	42	49	61	48	42	49	61	40
36	36	36	36	35	35	35	35	41
\$ 164	\$ 151	\$ 167	\$ 193	\$ 160	\$ 147	\$ 162	\$ 188	42
\$2,705	\$2,052	\$2,750	\$3,741	\$2,552	\$1,935	\$2,595	\$3,521	43
\$ 266(3-1)	\$ 202(3-2)	\$ 270(3-2)	\$ 368(3-2)	\$ 252(3-1)	\$ 191(3-2)	\$ 256(3-2)	\$ 348(3-2)	44
\$2,439	\$1,850	\$2,480	\$3,373	\$2,300	\$1,744	\$2,339	\$3,173	45
150(3-3)	114(3-3)	153(3-3)	207(3-3)	150(3-3)	114(3-3)	153(3-3)	207(3-3)	46
\$2,289	\$1,736	\$2,327	\$3,166	\$2,150	\$1,630	\$2,186	\$2,966	47
25(3-4)	25(3-4)	25(3-4)	25(3-4)	25(3-4)	25(3-4)	25(3-4)	25(3-4)	48
\$2,264	\$1,711	\$2,302	\$3,141	\$2,125	\$1,605(3-5)	\$2,161	\$2,941	49
\$ 296(3-5)	\$ 220(3-5)	\$ 296(3-5)	\$ 39(3-5)	\$ 277(3-5)	\$ 206(3-5)	\$ 277(3-5)	\$ 364(3-5)	50
\$1,968	\$1,491	\$2,006	\$2,749	\$1,848	\$1,399	\$1,884	\$2,577	51
\$2,127	\$1,612	\$2,168	\$2,972	\$1,998	\$1,512	\$2,037	\$2,786	52
								53
								54
								55
								56
				</				

1) *Exchange Rates*

The following official exchange rates were used throughout:

	1966	1968
£ sterling/U.S.\$	\$2.79	\$2.41
£ sterling/Can.\$	\$3.01	\$2.60
Source: Bank of England as published in Central Statistical Office, <i>Annual Abstract of Statistics 1968, No. 105</i> (London: Her Majesty's Stationery Office, 1968).		
U.S.\$/Can.\$	\$1.081	\$1.081
Can.\$/U.S.\$	\$0.925	\$0.925

Source: Bank of Canada average noon rates for the year.

2) *Calculation of Wage Rates*

The estimated average hourly wage rates for motor vehicle manufacturing in the *Ministry of Labour Gazette* were used to develop annual wage costs paralleling those used in the Study. The rates for 1966, 1967 and 1968 were derived from the figure for April 1965<sup>13</sup> by adjusting for the change in average hourly wages in the larger category, vehicles, from the average for 1965 to 1966, 1967, and 1968 averages. In estimating the annual wage cost per worker in U.S. dollars, the following formula was used:

$$\frac{\text{Hourly Wage Rate in Pence (d.)}}{240 \text{ d. in } \pounds} \times \frac{\text{Hours Shown as Worked in Tractor Study}}{\text{Exchange Rate}} = \text{Annual Earnings in U.S. dollars}$$

The results were as follows:

	Hourly Wage Rate (Sterling d.)	Annual Wage Cost (U.S. \$)
1966	133.7 d.	\$ 3,007
1967	137.9 d.	\$ 3,078
1968	149.4 d.	\$ 2,868

3) *Salaries for Male and Female Office Workers*

Weekly salaries for male and female administrative, technical and clerical employees in the "vehicles category" were taken from the *Employment & Productivity Gazette*.<sup>14</sup>

	Male (Ratio 1)			Female (Ratio 4)			Average Used in Analysis (U.S.\$)
	Weekly Salary Rate (Sterling)	Annual Salary Cost (U.S.\$)		Weekly Salary Rate (Sterling)	Annual Salary Cost (U.S.\$)		
	£   s   d			£   s   d			
1966	26   10   4	\$3,847		10   16   8	\$1,572		\$2,027
1967	27   17   3	\$4,042		11   13   0	\$1,690		\$2,160
1968	29   15   7	\$3,716		12   9   7	\$1,557		\$1,989

<sup>13</sup> *Ministry of Labour Gazette* (London: Her Majesty's Stationery Office, September 1965), Table II, p. 398. This is the last separate appearance of Motor Vehicle Manufacturing hourly data. This gazette is presently called the *Employment & Productivity Gazette*.

<sup>14</sup> *Employment & Productivity Gazette* (London: Her Majesty's Stationery Office, March 1969), p. 284.



The relatively low ratio of males to females (1:4) is explained by the small number of male employees shown in the general clerical category in the Study. Most male employment was covered under special, separate categories, which therefore were adjusted as shown under Note 5 below.

#### 4) Fringe Benefit Costs

The development of an estimate of British fringe benefit costs to be applied to wage and salary costs is founded on the study, *Labour Costs in Great Britain in 1964*.<sup>15</sup> While fringe benefit costs have probably increased in absolute terms since 1964, their costs as a percentage of wage and salary costs is likely to be much more constant. Both cost factors have shown a tendency to increase in roughly parallel proportions.

Fringe benefits are derived in the following tabulation from the study, *Labour Costs in Great Britain in 1964*.<sup>16</sup>

	Annual Average	
Labour costs in vehicles industry (including tractors) for largest sized employer group		£1,084.6
Of which, wages, and salaries make up		£1,001.5
Less holidays, sickness pay, training classes (included below)		£ 64.0
Wages and salaries paid for time worked (equivalent to North American standard)		£ 937.5
Fringe benefits (in North American sense)		
Holiday and sickness pay, attendance at training classes	£ 64.0	
National insurance contributions	£ 33.9	
Private social welfare payments	£ 30.7	
Subsidized services	£ 9.0	
Total fringe benefits	£137.6	£ 137.6
Total, wages and fringe benefits		£1,075.1
Total fringe benefits as percentage of wages and salaries		14.7%

While these fringe benefit costs include items not included in the Study, the amount used in the analysis of manufacturing costs in Britain was conservatively taken as 20 per cent of wage and salary costs.

#### 5) Management and Supervisory Salary Costs

Senior management and supervisory salary costs, when projected as percentage of U.S. costs, are much higher than the "average" male employment rates shown in Note 4 above. In order not to underestimate these costs, arbitrary percentages were used as 80 per cent for 1966-7 and 75 per cent for 1968-9 level (after devaluation).

#### 6) Tire Prices

Because parts for farm machines, tractors and implement tires can be imported to Canada duty-free, prices for farm machinery tires are considered to be the same in Canada as in the United States, after exchange adjustments. Confidential data received by the Commission from the Canadian subsidiary of an international tire manufacturer indicated that farm tractor tires were priced in Britain at about 80 per cent of the North American price, before devaluation. Because of the high import content in tire manufacturing, the cost after devaluation was taken as 75 per cent instead of 69 per cent which it would have been with the full effect of devaluation.

<sup>15</sup> Department of Employment and Productivity, *Labour Costs in Great Britain in 1964*

<sup>16</sup> *Ibid.*, Tables 3, 7, pp. 6, 12-3.

7) *Battery Prices*

Battery price differences would largely be affected by any differences in the cost of materials (largely lead) and the lower cost of labour.

	1966-7		
	<u>Small</u>	<u>Medium</u>	<u>Large</u>
Battery prices assumed for Study	\$20	\$30	\$35
Battery prices estimated in Britain	\$19	\$28	\$33

	1968-9		
	<u>Small</u>	<u>Medium</u>	<u>Large</u>
Battery prices assumed for Study	\$20	\$30	\$35
Battery prices estimated in Britain	\$18	\$27	\$31

8) *Purchased Parts – Other Items*

It was assumed that a multi-national tractor manufacturer in Britain would be sufficiently aware of differences between manufacturing costs in his own plants in North America and Britain to expect to achieve a similar cost reduction in outside purchases, the alternative being to make the item.

The costs of “manufactured components” are shown in Table D.13 as 30 per cent higher in the Study (line 37, column 1) than in Britain before devaluation (line 37, column 5). Given these significantly lower manufacturing costs in Britain, the price for outside purchased parts was reduced 20 per cent in 1966-7 and 25 per cent in 1968-9 from the level of the Study.

9) *Purchased Assemblies*

On the basis of the reasoning detailed in Note 8 above the cost of purchased assemblies in Britain for 1966-7 was reduced 20 per cent from the U.S. level (25 per cent for 1968-9).

The prices of purchased assemblies were also assumed to be affected by the cost of copper used in radiators, starters and generators or alternators, and wiring harnesses. The 1966-7 and 1968-9 figures used have therefore been increased by the higher quoted prices for copper in Britain, as shown below. The following estimates of the amounts of copper required were based on parts books, advice from dealers, etc.

*Copper Quantity Estimates (lbs.)*

	<u>Radiator</u>	<u>Starter</u>	<u>Alter- nator</u>	<u>Wiring, etc.</u>	<u>Total</u>	<u>Taken As</u>
Small tractor	23(20-25)	10	10	3	46	45
Mid-range tractor	45(40-50)	12	12	3	52	50
Large tractor	78(75-80)	14	14	3	109	110

with the following results:

## Price Adjustments

	1966-7			1968-9		
	Small	Medium	Large	Small	Medium	Large
Cost of purchased assemblies from Study	\$470	\$491	\$665	\$470	\$491	\$665
Estimated reduction in purchased prices (20% 1966-7; 25% 1968-9)	(94)	(98)	(133)	(118)	(123)	(166)
Estimated effect of higher copper prices (1966-7 <sup>1</sup> ; 1968-9 <sup>2</sup> )	\$ 15	\$ 17	\$ 36	\$ 6	\$ 7	\$ 15
	\$391	\$410	\$568	\$358	\$375	\$514

- <sup>1</sup> Amounts shown are copper weights times \$0.33 representing difference between \$0.36/lb. in United States and \$0.69/lb. in Britain. U.S. price taken from electrolytic copper, 1966 annual average price, Connecticut Valley, published by *Iron Age* (Philadelphia: Chilton Co., January 2, 1969), p. 131. British price taken as average price of G.M.B. and Standard Copper in London, as appearing in both *Metal Statistics 1968* (New York: The American Metal Market Co., 1968), p. 131, and *Metal Bulletin* (London: Metal Bulletin Ltd., various issues 1966-7).
- <sup>2</sup> Amounts shown are copper weights times \$0.14 representing difference between \$0.42/lb. in United States and \$0.56/lb. in Britain. U.S. price <sup>1</sup>*supra*. British price taken as annual average price of electrolytic copper, *Metal Bulletin* (London: Metal Bulletin Ltd., January 10, 1969), p. 14.

10) *Purchased Parts Subject to Make-Buy Decision (made from castings, forgings, steel bars, tubing, and aluminum)*

Outside purchased machined parts were reduced by the same percentage as the combined costs for the combined foundry and machining operations in Britain in each of the two periods as compared to the Study as follows:

	Total Foundry Costs in Britain	+	Total Machining Costs in Britain		
	$\frac{\text{Total Foundry Costs in U.S.} + \text{Total Machining Costs in U.S.}}{\text{Total Foundry Costs in Britain} + \text{Total Machining Costs in Britain}} \times 100$				
1966-7:	\$463	+	\$461	$\times 100 = 77.2\%$	
	\$571	+	\$625		
1968-9:	\$441	+	\$443	$\times 100 = 73.9\%$	
	\$571	+	\$625		

11) *Purchased Stampings*

The costs of purchased stampings were reduced by the same percentage as the Stamping plant costs for the two periods in Britain as compared to the Study as follows:

	Total Stamping Costs in Britain		Total Stamping Costs in U.S.		
	$\frac{\text{Total Stamping Costs in Britain}}{\text{Total Stamping Costs in U.S.}} \times 100$				
1966-7:	\$135	$\times$	100	=	83.9%
	\$161				
1968-9:	\$124	$\times$	100	=	77.0%
	\$161				

## 12) Foundry Material Costs

Foundry material costs are detailed in the Study in Table A7-1\*. British equivalent costs were developed as follows:

	Tractor Cost Study			British Equivalent			
	Percent- age of Charge	Price	Per Ton Cost	1966-7		1968-9	
				Price	Per Ton Cost	Price	Per Ton Cost
Pig iron	33.3	\$66	\$ 22	\$66 <sup>1</sup>	\$ 22	\$48 <sup>3</sup>	\$ 16
Internal scrap	33.3	—	—	—	—	—	—
Purchased scrap	33.3	\$40	\$ 13	\$19 <sup>2</sup>	\$ 6	\$22 <sup>2</sup>	\$ 7
			\$ 35		\$ 28		\$ 23
Additives and moulding sand			\$ 20		\$ 20		\$ 20
Total cost per ton			\$ 55		\$ 48		\$ 43
Cost of 3.3 tons			\$182		\$158		\$142

<sup>1</sup> 1966 pig iron price, Birmingham, England, taken from *Metal Bulletin* (London, Metal Bulletin Ltd., various issues 1966).

<sup>2</sup> Prices established by British Steel Corporation, taken from *ibid.*, various issues 1966-9.

<sup>3</sup> Price of hydraulically compressed old wrought iron and steel, taken from *ibid.*, various issues 1968-9.

## 13) Foundry Labour Costs

From Tables A11-1 to 6\*, British foundry labour costs were developed as follows:

	Tractor Cost Study		British Equivalent	
	Number of Employees	Cost (000)	1966-7	1968-9
			Cost (000)	Cost (000)
Direct labour	(608)	\$3,404.8		
Indirect labour	(222)	1,226.2		
Number of employees x annual wage cost (830 x \$3,007 <sup>1</sup> )			\$2,495.8	
(830 x \$2,868 <sup>1</sup> )				\$2,380.4
Total		\$4,631.0	\$2,495.8	\$2,380.4
Fringe	(30%)	1,389.3	(20% <sup>2</sup> ) 499.2	(20% <sup>2</sup> ) 476.1
Total		\$6,020.3	\$2,995.0	\$2,856.5
Divided by 60,000 units		\$ 100.0	\$ 49.92	\$ 47.61
			or	or
			\$ 50.0	\$ 48.0

<sup>1</sup> See Section (2), Note 2, *supra*.

<sup>2</sup> See Section (2), Note 4, *supra*.

## 14) Foundry Operating Expense

Foundry operating expense costs were reduced as follows for Britain.

## (a) Support costs (Tables A11-5 and 6\*)

	Tractor Cost Study	British Equivalent	
		1966-7	1968-9
	(000)	(000)	(000)
Superintendent & assts. <sup>1</sup>	\$ 38.4	\$ 38.4	\$ 38.4
Middle management	357.2		
(80%) <sup>2</sup>		285.8	
(75%) <sup>2</sup>			267.9
Clerical (17)	85.7		
(17 x \$2,027) <sup>3</sup>		34.5	
(17 x \$1,989) <sup>3</sup>			33.8
Total	\$481.3	\$358.7	\$340.1
Fringe (30%)	144.4		
(20%) <sup>4</sup>		71.7	
(20%) <sup>4</sup>			68.0
Total	\$625.7	\$430.4	\$408.1
Divided by 60,000 units	\$ 10.43	\$ 7.17	\$ 6.80

<sup>1</sup> Costs assumed at same level in Britain as in North America.

<sup>2</sup> See Section (2), Note 5, *supra*.

<sup>3</sup> See Section (2), Note 3, *supra*.

<sup>4</sup> See Section (2), Note 4, *supra*.

## (b) Electric furnace electrode costs

	Tractor Cost Study	British Equivalent	
		1966-7	1968-9
	(000)	(000)	(000)
Refractories & electrodes <sup>1</sup>			
U.S.	\$594.0		
Britain 1966-7		\$518.0	
Britain 1968-9			\$455.0
Divided by 60,000 units	\$ 9.90	\$ 8.63	\$ 7.58

<sup>1</sup> Refractories and electrodes shown as \$3 a ton of metal cast, i.e. 3.3 tons per tractor (Note 13, *supra*), x 60,000 tractors at \$3 equals \$594,000. Electrode costs secured from Materials Branch, Department of Industry, Trade and Commerce (in letter dated June 17, 1969), quoting Union Carbide as follows: United States, \$0.30/lb.; Britain, \$0.23/lb. for 1968-9. For 1966-7, devaluation difference of 14 per cent added to British costs. These numbers produced ratios which gave the amounts shown, *supra*.

## (c) Summary of operating expense

	Tractor Cost Study	British Equivalent	
		1966-7	1968-9
Support costs	\$10.44	\$ 7.17	\$ 6.80
Electric furnace electrode cost	9.90	8.63	7.58
Total	\$20.34	\$15.80	\$14.38
Difference between Britain & U.S.		\$4.54 or \$5.96 or \$6	



15) *Allocated Support Costs*

The wage and salary component only of support costs allocated to individual plants or manufacturing operations were reduced to British levels.

	Tractor Cost Study (000)	British Equivalent	
		1966-7 (000)	1968-9 (000)
(Table A36-2*)			
Managers <sup>1</sup>	\$ 200.0	\$ 200.0	\$ 200.0
Superintendent	151.2		
(80%) <sup>2</sup>		121.0	
(75%) <sup>2</sup>			113.4
Supervision	714.0		
(80%) <sup>2</sup>		571.2	
(75%) <sup>2</sup>			535.5
Clerical, etc. (246)	1,476.0		
(246 x \$2,027) <sup>3</sup>		498.6	
(246 x \$1,989) <sup>3</sup>			489.3
Total	\$ 2,541.2	\$ 1,390.8	\$ 1,338.2
(Table A43-2*)			
Superintendent & asst.	\$ 26.6		
(80%) <sup>2</sup>		\$ 21.3	
(75%) <sup>2</sup>			\$ 20.0
Foremen	93.0		
(80%) <sup>2</sup>		74.4	
(75%) <sup>2</sup>			69.8
Material handlers (158)	884.8		
(158 x \$3,007) <sup>4</sup>		475.1	
(158 x \$2,868) <sup>4</sup>			453.1
Clerical, etc. (7)	35.0		
(7 x \$2,027) <sup>3</sup>		14.2	
(7 x \$1,989) <sup>3</sup>			13.9
Total	\$ 1,039.4	\$ 585.0	\$ 556.8
(Table A44-2*)			
Superintendents	\$ 285.6		
(80%) <sup>2</sup>		\$ 228.5	
(75%) <sup>2</sup>			\$ 214.2
Supervision	1,233.0		
(80%) <sup>2</sup>		986.4	
(75%) <sup>2</sup>			924.8
Clerical (550)	3,575.0		
(550 x \$2,027) <sup>3</sup>		1,114.9	
(550 x \$1,989) <sup>3</sup>			1,094.0
Total	\$ 5,093.6	\$ 2,329.8	\$ 2,233.0
Total	\$ 8,674.2	\$ 4,305.6	\$ 4,128.0
Fringe benefits (30%)	2,602.3		
(20%) <sup>5</sup>		861.1	825.6
Total analyzed for differences	\$11,276.5	\$ 5,166.7	\$ 4,953.6
Other admin. and support costs	5,633.4	5,633.4	5,633.4
Total admin. and support costs	\$16,909.9	\$10,800.1	\$10,587.0
Admin. and support costs-			
Britain as % of U.S.		63.9%	62.6%
Taken as		64 %	63 %

<sup>1</sup> Costs assumed at same level in Britain as in North America.

<sup>2</sup> See Section (2), Note 5, *supra*.

<sup>3</sup> See Section (2), Note 3, *supra*.

<sup>4</sup> See Section (2), Note 2, *supra*.

<sup>5</sup> See Section (2), Note 4, *supra*.

16) *Machining Operations – Forgings*

The cost of forgings for machinery was reduced for Britain by the ratio between forging material costs in the United States and Britain, as provided by the Materials Branch, Department of Industry, Trade and Commerce (in a letter dated June 17, 1969). Forging quality billets, A.I.S.I. C-1010, on the basis of 100 tons quantity, size 4" x 4" mill length, F.O.B. mill, were given as \$125.34 in the United States and \$83.25 in Britain.

Since prices in the 1966 period were not available from this source, the relationship between British prices for forging ingots up to 0.60 per cent carbon from the magazine, *Iron Age*<sup>17</sup>, in 1966 and 1968, was used to adjust the \$83.25 price as follows:

	<u>Iron Age Prices</u>	<u>Prices Used In Analysis</u>
1968	\$74.50	\$83.25 (above)
1966	\$85.12	\$95.12

For 1966, British costs were therefore taken as 75.9 per cent of U.S. costs.

17) *Machining Operations – Aluminum*

Aluminum prices were considered to be the same in North America and Britain for both periods.

18) *Machining Operations – Steel Bars*

The British 1966–7 price used (8.9¢ /lb.) is an average price for cold finished and alloy steel block bars taken from *Metal Bulletin*.<sup>18</sup>

Steel bars prices for machining in the United States and in Britain (1968-9) were considered to be the average of two specifications provided by the Materials Branch of the Department of Industry, Trade and Commerce (in a letter dated June 17, 1969). Mild steel A.I.S.I. C-1010 and low alloy steel A.I.S.I. 4140 were given as follows (Canadian dollars used to develop ratio):

	<u>U.S. Price</u>		<u>British Price</u>	
	<u>Ton</u>	<u>Cwt.</u>	<u>Ton</u>	<u>Cwt.</u>
A.I.S.I. C-1010	\$158.50	\$ 7.93	\$105.00	\$ 5.25
A.I.S.I. 4140		13.64		9.50
Average per cwt.		\$ 10.79		\$ 7.38
Average per lb.		10.8¢		7.4¢

Using these relationships (10.8¢, 8.9¢ and 7.4¢) the material costs for steel bar stock became per tractor, for Britain:

	<u>Average</u>	<u>Small</u>	<u>Medium</u>	<u>Large</u>
Tractor Cost Study (Table A51-1*)	\$12	\$8	\$12	\$14
Britain, 1966-7	\$10	\$7	\$10	\$12
Britain, 1968-9	\$ 8	\$5	\$ 8	\$10

<sup>17</sup>*Iron Age* (Philadelphia: Chilton Co., various issues 1966 and 1968).

<sup>18</sup>*Metal Bulletin* (London: Metal Bulletin Ltd., various issues 1966).

19) *Machining Operations – Tubing*

Tubing material prices were not available. The relationship developed for steel bar stock was therefore used:

	<u>Average</u>	<u>Small</u>	<u>Medium</u>	<u>Large</u>
Tractor Cost Study (Table A51-1*)	\$20	\$17	\$20	\$24
Britain, 1966-7	\$16	\$14	\$16	\$20
Britain, 1968-9	\$14	\$12	\$14	\$16

20) *Machining Operations – Labour Costs*

Machining operations labour costs were calculated on the same basis as foundry labour costs, Note 13, (Tables A26-2, 3, & 4\*):

	<u>Tractor Cost Study</u>	<u>British Equivalent</u>	
		<u>1966-7</u>	<u>1968-9</u>
	(000)	(000)	(000)
Labour	\$ 7,828.0	\$4,185.8	\$3,992.2
Fringe	2,349.0	837.2	798.4
Total	\$10,177.0	\$5,023.0	\$4,790.6
Divided by 60,000 units	\$ 170.0	\$ 84.0	\$ 79.8
			or \$ 80.0

21) *Machining Operations – Operating Expense*

Operating expense was reduced in the area of support costs (Tables A26-3 & 4\*) on the same basis as foundry operating expense, Note 14, as follows:

	<u>Tractor Cost Study</u>	<u>British Equivalent</u>	
		<u>1966-7</u>	<u>1968-9</u>
	(000)	(000)	(000)
Total salaries	\$451.0	\$341.4	\$323.2
Fringe	135.3	68.3	64.6
Total	\$586.3	\$409.7	\$387.8
Divided by 60,000 units	\$ 9.77	\$ 6.83	\$ 6.46
Difference between U.S. and Britain		\$ 2.94	\$ 3.31
Taken as		\$ 3.00	\$ 3.00

22) *Stamping Plant – Material Costs*

Material costs were reduced for Britain by the average relationship between the U.S. and British prices for cold rolled sheet for 1966-7 and 1968-9.

	<u>U.S. Price</u>	<u>British Price</u>	
		<u>1966-7</u>	<u>1968-9</u>
Cold rolled sheet	7.00¢/lb. <sup>1</sup>	7.00¢/lb. <sup>2</sup>	6.05¢/lb. <sup>3</sup>

<sup>1</sup> Figure taken from Royal Commission on Farm Machinery, *Farm Tractor Production Costs: A Study in Economies of Scale, Study No. 2* (Ottawa: Queen's Printer, 1969).

<sup>2</sup> Price for cold rolled sheet, 17/20 gauge, average of various 1967 prices of Iron & Steel Board taken from *Metal Bulletin* (London: Metal Bulletin Ltd., various issues 1967).

<sup>3</sup> Price for cold rolled sheet, 17/20 gauge, average of various 1968 prices of British Steel Corporation taken from *Metal Bulletin* (London: Metal Bulletin Ltd., various issues 1968).

Using this relationship, stamping plant material costs in 1966-7 were taken as identical in the two countries. In 1968-9 stamping plant material costs were estimated as follows in Britain:

	<u>Average</u>	<u>Small</u>	<u>Medium</u>	<u>Large</u>
Material costs per tractor	\$ 62	\$ 49	\$ 66	\$ 73

### 23) Stamping Plant – Labour Costs

Stamping plant labour costs (Tables A18-2, 3 and 4\*) were reduced as follows on the same basis as foundry labour costs, Note 13:

	<u>Tractor Cost Study</u>	<u>British Equivalent</u>	
		<u>1966-7</u>	<u>1968-9</u>
	(000)	(000)	(000)
Labour	\$ 1,552.0	\$ 824.0	\$ 785.8
Fringe	466.0	164.8	157.2
Total	\$ 2,018.0	\$ 988.8	\$ 943.0
Divided by 60,000 units	\$ 33.0	\$ 16.0	\$ 16.0

### 24) Stamping Plant – Operating Expense

Stamping plant operating expenses were reduced as follows in the area of support cost (Tables A18-3 & 4\*) on the same basis as foundry operating expense, Note 14:

	<u>Tractor Cost Study</u>	<u>British Equivalent</u>	
		<u>1966-7</u>	<u>1968-9</u>
	(000)	(000)	(000)
Salaries	\$ 181.3	\$ 132.9	\$ 127.4
Fringe	54.4	26.6	25.5
Total	\$ 235.7	\$ 159.5	\$ 152.9
Divided by 60,000 units	\$ 3.93	\$ 2.66	\$ 2.55
Difference between U.S. and Britain		\$ 1.27	\$ 1.38
Taken as		\$ 1.00	\$ 1.00

### 25) Assembly Operations – Labour Costs

Assembly operation labour costs were reduced as follows (Tables A33-1, 2 & 3\*) on the same basis as foundry labour costs, Note 14:

	<u>Tractor Cost Study</u>	<u>British Equivalent</u>	
		<u>1966-7</u>	<u>1968-9</u>
	(000)	(000)	(000)
Labour	\$ 3,805.0	\$ 2,044.8	\$ 1,950.2
Fringe	1,141.5	409.0	390.0
Total	\$ 4,946.5	\$ 2,453.8	\$ 2,340.2
Divided by 60,000 units	\$ 82.0	\$ 41.0	\$ 39.0

26) *Assembly Operations – Operating Expense*

Assembly operations operating expenses were reduced as follows, in the area of support costs (Tables A33-2 & 3\*) on the same basis as foundry operating expense, Note 14:

	Tractor Cost Study	British Equivalent	
		1966-7	1968-9
	(000)	(000)	(000)
Total salaries	\$ 395.1	\$ 303.4	\$ 287.1
Fringe	118.5	60.7	57.4
Total	\$ 513.6	\$ 364.1	\$ 344.5
Divided by 60,000 units	\$ 8.56	\$ 6.07	\$ 5.74
Difference between U.S. and Britain		\$ 2.49	\$ 2.82
Taken as		\$ 2.00	\$ 3.00

(3) *Adjustments to Costs after Basic Analysis*1) *Average Tractor Costs Volume Adjustment 60,000 to 90,000 and 60,000 to 20,000 Volumes*

Table 41\* of the Study shows a reduction in cost of \$291 for the average tractor as volume changes from 60,000 to 90,000. This is the sum of a number of items, which it was necessary to adjust by their British equivalents to develop amounts to be deducted from British costs at 60,000-unit volume to provide cost estimates at 90,000-unit volume. For example, total labour costs for the average tractor in North America are shown in the Study as \$385; for Britain, \$191 and \$183, for the two periods respectively. The ratios between these labour costs were used to estimate the labour cost difference between volumes.

The other cost factors identified in Table 41\* were used as the denominator of the fraction of which the British equivalent cost was the numerator to pro-rate the amounts identified in Table 41\* to their British equivalents.

	Study Costs <sup>1</sup>	90,000 costs lower/(higher) than 60,000 costs	
		1966-7	1968-9
Variable costs			
Material costs			
Purchased parts	\$410	\$332	\$310
Production plant materials	(85)	(73)	(65)
Total material costs	\$325	\$259	\$245
Labour costs	31	15	15
Operating expense	(12)	(11)	(11)
Support costs	16	10	10
Total variable costs	\$298	\$273	\$252
Fixed costs	(7)	(7)	(7)
Total cost difference between volumes	\$291	\$266	\$252

<sup>1</sup> Figures taken from Royal Commission on Farm Machinery, *Farm Tractor Production Costs: A Study in Economies of Scale, Study No. 2*, (Ottawa: Queen's Printer, 1969), Table 41, p. 136.

Similarly, adjustment costs were developed for the average tractor built at 20,000-unit volume level, as follows:

Total cost difference between volumes	\$463	\$387	\$375
---------------------------------------	-------	-------	-------



While these adjusting figures are not shown on Table D.13, they are used to estimate British production costs at 20,000-unit volume in Table 6.6, Chapter 6.

2) *Estimation of Cost Adjustments from 60,000 to 90,000 Volume for Different Sizes of Tractors*

The relative costs of the different sizes of tractors calculated for each location were used to estimate cost reductions for each size of tractor.

	Average	Small	Medium	Large
Study costs at 60,000 volume	\$3,412	\$2,601	\$3,465	\$4,682
Adjustment 60-90,000 volume (line 44, Table D.13)	291	218	295	399
British costs- 1966-7	\$2,705	\$2,052	\$2,750	\$3,741
Adjustment 60-90,000 volume (line 44, Table D.13)	266	202	270	368
British costs - 1968-9	\$2,552	\$1,935	\$2,595	\$3,521
Adjustment 60-90,000 volume (line 44, Table D.13)	252	191	256	348

3) *Estimation of Cost Reduction Associated with 120,000+ volume*

A further cost saving was estimated for volumes in excess of 120,000 of \$200 in the United States and \$150 in Britain in both periods. For individual models, these adjustments were proportionally estimated as follows:

	Average	Small	Medium	Large
Study costs (line 46, Table D.13)	\$200	\$152	\$203	\$274
British costs (line 46, Table D.13)	\$150	\$114	\$153	\$207

4) *Reduction in Cost Due to Modular Construction*

A very conservative estimate for the cost reduction associated with modular design of the engine and transmission was given in Table 52\* of the Study as \$25. This is shown without adjustment in line 48 of Table D.13.

5) *Adjustment to Cost of Purchased Parts*

In developing British manufacturing costs, the initial use of British input cost factors gave costs which were much higher than the independent cost estimate of \$1,500 for a 40 HP tractor received by the Commission. The cost shown for the 1968-9 period on the line "Adjusted Total Tractor Manufacturing Costs" (line 49, Table D.13), \$1,605 (U.S.) or \$1,735 (Can.), is about \$200 above this confidential estimate. This estimate was not challenged by farm machinery companies manufacturing tractors in Britain with whom the Commission discussed the question.

Accordingly, line 50 of Table D.13 reduces both U.S. and British costs developed earlier in the table by a flat 20 per cent of the costs of purchased items. The resulting estimated cost for a 40 HP tractor built in an "ideal" British plant in the 1968-9 period becomes \$1,512 (Can.). The cost reduction assumed is justified by the necessarily imprecise and arbitrary nature of the cost calculations for outside purchased items in the Study. The only information available to the Study analysts was noted:

After discussion with the Commission, and based on statements by farm machinery companies during its public hearings, the approximate cost to them of individual components was estimated as one-third of the dealer price for replacement parts that would be

considered potentially to be 'made' and one-half of the dealer price for parts that would probably be 'purchased'...<sup>19</sup>

Such a necessarily crude "rule of thumb" left open the possibility of over- or under-evaluation of the outside purchased items needed for tractor manufacturing, a possibility which did not affect the primary purpose of that analysis, the study of economies of scale in tractor production.

---

<sup>19</sup> Royal Commission on Farm Machinery, *op. cit.*, Chapter III, pp. 25-6.

## Appendix E

### MAIN BODY OF LETTER RECEIVED FROM MULTI-NATIONAL FARM MACHINERY COMPANY RE SEPARATION OF MARKETS

March 13, 1969

I am informed that [the company] does provide in their . . . [dealer and distributor agreements] that franchised [company] distributors and dealers located in the U.K. are obligated to resell [company] products basically to retail customers within the U.K.

A retail customer is defined in the agreements to be "persons and companies wishing to purchase the products and spare parts for their own use and not directly or indirectly for resale".

It should be pointed out that a similar qualification has been applied for a number of years by most of our respective [operating companies] anywhere in the world as it relates to respective national distribution systems. You will observe in your copy of the [company] Canadian . . . [sales agreement] . . . that the [dealer is to maintain a suitably organized business with adequate stocks of products]. A similar clause also appears in our [company], U.S. . . . [agreement].

The intention of this qualification, whether it is applicable to Canada, the U.S. or the U.K., or any other country where [the company] establishes a national distribution organization, is to make it clear that if a retail distribution system is established that it is understood by the franchisee and the company that this is what is intended for the protection, primarily of all franchisees operating in the particular market.

In the U.K. for example, if the dealer or distributor does in fact sell new products to customers who resell for export or in the domestic market, then the company would have the right to terminate his contract. The company, however, as a practical matter would have to establish that such dealer or distributor knowingly sold to persons who were not "retail customers", and if after a full investigation such proof is obtained, then we anticipate that termination proceedings will be instituted.

As you know, there are several forms of distribution to be considered – direct manufacturer to consumer (company owned retail stores); independent wholesalers or distributors who establish their own retail operation; independent dealers or retailers franchised by the manufacturer; commission agents, or possibly a combination of two or more of such concepts. In Canada the distribution system which evolved for [the company] was the franchised independent dealer with the result that the thrust of the company's distribution operation was focused on this specific form of distribution.

When [the company] establishes independent business men as retailers or dealers it is paramount to the development and efficiency of such retail distribution system that it function with integrity and in an ordered fashion, otherwise the investment of money and manpower by both the company and the dealer could be destroyed.

You will recall that our brief to and testimony before the [Commission] detailed the company's dealer support programs – new and used inventory financing; service and product training and publications; accounting, bookkeeping and business approaches; advertising and sales promotion; extensive and unequalled parts supply and facilities, and other technical and administrative functions designed to ensure that dealers receive timely product shipments at the lowest cost to enable them to sell and service [company] products competitively in an efficient and informed manner. We recognize the importance and necessity of these programs relative to the capital goods industry in which we are engaged. The attendant expenses demanded by such programs, unlike most consumer goods industries, are self evident, particularly for the large geographical Canadian market.

[The company] has for decades established through the sale of its products which carry its trademark, a high degree of goodwill, product acceptance and customer reliance. We are concerned, not only with an efficient distribution system of retailers or dealers in any national market through which our products are sold at retail, but also with the responsibility of the retailer to perform after-sales service of the products he sells in order to serve and satisfy his customer. If the after-sales function of the retailer is not performed the goodwill attached to our trademark and the market-ability of our products is diluted, which results in loss of sales and profit to the retailer and to [the company]. It is for this reason that regardless of which country our products are sold, our franchise contracts clearly define the level or type of distribution and the responsibilities and terms by which the franchisee will operate. To do otherwise would be tantamount to chaos and disorder from a distribution standpoint, to the detriment of the franchisee and the company.

Any responsible manufacturer must discipline itself not to undermine or allow the relationship of integrity with its dealer organization to deteriorate, otherwise its distribution system, a founding block of its business, will crumble. Specifically a manufacturer cannot permit itself to compete at the retail level with a dealer organization which the manufacturer itself developed, even though such action may appear to have attractive benefits for the manufacturer in the short term. Nor can the manufacturer long permit new products bearing its trademark to be sold at retail by means other than through the franchised dealer organization. The resulting disintegration of the dealer organization is apparent particularly at a time when it is difficult to attract and maintain qualified and financially responsible dealers. The consumer also loses; the machinery that he purchases will be without the supporting after-sales function of an established dealer organization serving the particular market;

he is faced with the absence of warranty benefits;

he is faced with the possible lack of total replacement parts service and availability;

he is faced with the difficulties in disposing of trade-in machinery and without the benefit of over-allowances;

he is faced with the lack of dialogue with his local authorized dealer who is sensitive to and aware of his customers machinery demands;

he is faced with plant production and delivery schedules which are not focused or planned specifically for the requirements of Ontario and Canadian farmers;

he is faced with the possible abuses of misrepresentation of products when unauthorized sellers or distributors are merely order takers with no imposed or accepted responsibilities for proper product distribution in the long term;

he is faced with no redress or practical remedy to correct product delivery, specification and machine performance problems due either to lack of facilities or financial worthiness of the unauthorized seller or distributor and/or the extra jurisdictional problem which thwarts legal redress.

He is faced additionally, in the present machinery importation program sponsored by the Ontario Federation of Agriculture, with all the attendant problems of purchasing on the basis of price only for a specific product which he has not seen or tested and for which he pays cash before delivery, presumably incurring more interest expense.

[The company] is a global or multi-national enterprise. [It] earns its profit on a consolidated basis by the sale and service of [its] products throughout the world, no matter who sells it or where it is sold. However, it is a fundamental marketing rule that in order to sell and service its products efficiently, an orderly distribution system must be established in the applicable geographical or national market which system is appropriate to the demands and characteristics of that specific market. For the company to attract suitable retailers or dealers or maintain existing retailers it must establish an orderly distribution system that

creates the profit motive and incentive to the independent retailer relative to the sale and service of the products, otherwise we are not serving the farmer customer, the dealer or the company.

The integrity of the dealer must be preserved for him to survive. [The company] is committed to this concept.





## **Appendix F**

Documents Submitted by Ontario Federation of  
Agriculture in Connection with the Importation of Tractors.



5th Floor, 387 Bloor St. E., Toronto 5, Ontario

Telephone 921-8989

June 5th, 1969.

Mr. N. B. MacDonald,  
Director of Research,  
Royal Commission on Farm Machinery,  
Box 2520, Postal Station "D",  
Ottawa, Ontario.

Dear Sir:

Enclosed you will find signed statements and supporting evidence from Mr. Kenneth Graham, Fieldman, Ontario Federation of Agriculture; Mr. James Jacklin, President of Bruce Federation of Agriculture, and myself, David T. Crone, Director of Marketing and Research, Ontario Federation of Agriculture.

These documents spell out some of the opposition we have experienced in importing farm tractors from the British Isles. These signed statements may be used by the commission as it sees fit.

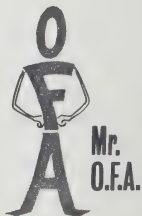
If, after examination of these statements and supporting evidence, the commission decides it requires signed affidavits or any further evidence or statements, I would be pleased to give any request immediate consideration.

Yours truly,



David T. Crone,  
Director of Marketing & Research.

DTC:mjr  
Encs.





5th Floor, 387 Bloor St. E., Toronto 5, Ontario

Telephone 921-8989

EXHIBIT 1

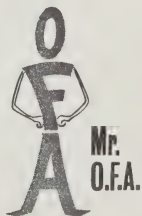
June 3rd, 1969.

STATEMENT

I, David Crone, Director of Marketing and Research for the Ontario Federation of Agriculture, undertook a study of farm in-put costs early in 1968. During my investigations, it became apparent that Ford 5000 tractors and Massey-Ferguson 165 tractors, both manufactured in the United Kingdom or Western European area, sold in Ontario at close to double the British price. Comparisons are based on list prices in both the United Kingdom and Canada.

This yawning price spread made it clear that Ontario farmers would be saved a lot of money if these tractors could be imported outside the existing manufacturer-dealer structure. To test the validity of my research, I decided to import seven tractors from Britain for a group of Ontario farmers. My contact in England was a Mr. J. H. Vernon, of Onneley Hall, Madeley, Crewe.

Mr. Vernon bought four Ford 5000s and three Massey 165s from his local dealers. He had no problems in making these purchases. The dealers were not told they were to be exported to Canada. Similarly, there were no problems in shipping them to this country. However, it appears that, later in the year, the Ford dealer was subjected to considerable pressure by Ford Company officials.



The dealer was threatened with the deprivation of his dealership, or a heavy fine, if Ford found he was a party, knowingly complicit to the Ontario shipment. How the Ford Company traced back the shipment to this dealer is not known. However, I assume an employee of Ford of Canada must have taken the serial numbers of the tractors when they landed in Canada and transmitted them to England.

The degree of harassment of Mr. Vernon's dealer is best described in Exhibit "D" attached.<sup>1/</sup>

These seven tractors were delivered to Ontario farmers at prices ranging between \$3,300. and \$3,600., depending on optional equipment. These prices confirmed my original theory. So the Ontario Federation of Agriculture, and several county federations of agriculture, set up the mechanism for further shipments.

At this point, open company opposition developed in the United Kingdom. Dealers were threatened with disciplinary action if they knowingly sold equipment for export. See Exhibit "E",<sup>2/</sup> which is to follow. Therefore, our tractors are varied. Instead of getting co-operating English farmers to buy several tractors at one dealer, orders of one and two tractors were spread over several dealers.

---

<sup>1/</sup> Now Exhibit 2.

<sup>2/</sup> Now Exhibit 3.



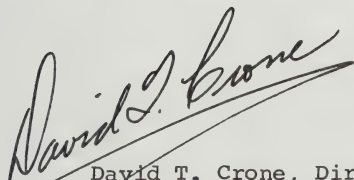
Page 3

However, even this technique attracted suspicion because of the "extras" demanded by Ontario farmers - power steering, large tires, etc. See Exhibit "F" attached.<sup>3/</sup> Tractors have become increasingly difficult to obtain.

Opposition in Ontario has taken the form of a telephone call from a Ford Company solicitor to Mr. H. E. Harris, Q.C., solicitor for the Ontario Federation of Agriculture.

The Ford Company solicitor pointed out that the Ontario Federation of Agriculture, because it is associated with the tractor imports, may be violating the law by using Ford's English trademark in Canada.

At this point, I would like to mention there are many verbal reports of dealers and shipping agents being harassed by machinery company officials. However, this is hearsay evidence and is most difficult to document.

A handwritten signature in cursive script, reading "David T. Crone". The signature is written in dark ink and is positioned above a horizontal line.

David T. Crone, Director,  
OFA Marketing & Research Department.

---

<sup>3/</sup> Now Exhibit 4.

EXHIBIT 2

Telephone:  
Madeley 219

EXHIBIT "D"

From  
J. H. VERNON,

64

ONNELEY HALL,

MADELEY, CREWE

Dear Mr. Crone

January 20 1969

I am having considerable concern about the Firm who sold me the Ford

January 20, 1969.

Drayton;

Can  
of the  
put  
in evidence

Dear Mr. Crone,

I am having considerable concern about the Firm who sold me the Ford 5000. George Oakley of Market Drayton. Can you explain how Fords got hold of this evidence. Luckily you did not put them on Show with the Firm's Name in evidence.

These  
Have  
wait  
that

The order sheets !  
These you took away with you. Have Fords any evidence that the writing of those Order Sheets, was that of the Salesman, of the Firm!

F.  
has  
are  
coll  
So  
to

Ford's are acting in a vicious fashion against this firm—and are leaving no stone unturned to collect evidence. So far they have made no approach to me, and little satisfaction they would get, should they do so. All the wrath is coming from your quarters. Can you break your silence and give me any and every piece of information? You must have regard for my position with this firm—I've done business with them for years. They are facing either the loss of the agency or a very heavy fine if complicity is proved against them.

they

I am purchasing any further tractors

all the wrath is coming from your quarters. Can you break your silence and give me any and every piece of information? You must have regard for my position with this firm—I've done business with them for years. They are facing either the loss of the agency or a very heavy fine if complicity is proved against them. I am purchasing any further tractors

Telephone:  
Madeley 219

From  
J. H. VERNON,  
ONNELEY HALL,  
MADELEY, CREWE

65

20.1.69

*Through a Third Party*

*an*  
*Has*  
*SK*

Telephone:  
Madeley 219

From: J. H. Vernon,  
Onneley Hall,  
Madeley, Crewe.

*e*  
*-*

*Th* Through a Third Party—

*an* Any buyers from Fords have now to sign a contract  
Sheet, undertaking not to export! This undertaking does not  
prevent any buyer from selling to me.—It means an additional  
charge against your men!

*post*  
*int*  
*me*

*C*  
*He* News travels fast! —The Ford Selling Organisation  
have got information about Tractor Buying Groups, in Ontario.  
You certainly raised a Whirlwind! !

*the*

*For*  
*Has* I'm wondering—How much good has it done? —Have  
I been a crusader, all to no purpose! !

*me.*

*Be*  
*Go*  
*sk*  
*Q* Will you please try and give me an answer.

*for*

Best Wishes  
Sincerely

*"wob!!"*  
*uch.*

(Signed) Harold Vernon

*some* I mean a Crusader, all  
to no purpose!!

*Will you please try and*  
*give me an answer!*

*Best Wishes*

*Sincerely*

*Harold Vernon*

EXHIBIT 3



## AGRICULTURAL CENTRAL TRADING LTD.

1 WHITE HILL, CHESHAM, BUCKINGHAMSHIRE

Telephone: CHESHAM 4931 (10 lines)

Telegraphic Address: FARMACT, CHESHAM.

Your Ref :

Our Ref : JSH/JKP

EXHIBIT E.A.

24th June, 1969.

D. T. Crone, Esq.,  
Director of Marketing & Research,  
Ontario Federation of Agriculture,  
5th Floor,  
387 Bloor St. E.,  
Toronto 5,  
Ontario, Canada.

Dear Mr. Crone,

Thank you for your telegram of the 19th June requesting information and reasons for replacing several orders.

This was due to the insistence of one of the Ford Dealers having the farmer sign a Contract Order Form which included the following terms on the reverse:-

"The retail customer undertakes that he is ordering the Tractor for his own use and that he will not re-sell it as a new Tractor in the course of any business carried on by him. The retail customer further undertakes that he will not export the Tractor from the United Kingdom for a period of 12 months from the date of delivery to him".

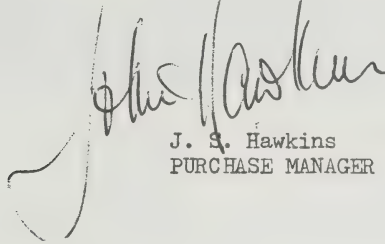
This form, prepared by Ford Motor Company, is the standard form for Ford Dealers to use when selling tractors. Not all farmers are prepared to sign the forms and consequently some Dealers make a sale without using the form or having the form signed.

Acting as agents we considered it advisable, in the interest of the English farmer, to have the orders cancelled on the particular Dealer who had insisted upon the forms being signed. The farmers replaced the orders on other Dealers. At no time was the question raised of any action being taken by the Dealer or Manufacturer regarding the clauses on the reverse of the form.

- 2 -

Our action was purely precautionary to protect the farmer should difficulties arise as a result of having signed the form. I enclose a photostat copy of the form for your information and I hope that this will clear the matter satisfactorily.

Yours sincerely,

A handwritten signature in dark ink, appearing to read "J. S. Hawkins". The signature is written in a cursive style with a large initial "J" and "S".

J. S. Hawkins  
PURCHASE MANAGER

Enc.



CANADIAN NATIONAL • CANADIAN PACIFIC

**TELECOMMUNICATIONS**

CANADIEN NATIONAL • CANADIEN PACIFIQUE

0AB788

6115B(12-67)

#0AB789(210447) 0TA210 VIA CANADIAN CNC121 FOC645 F6

EXHIBIT 4-1

CATO CO GBLB 029

CHESHAM BUCKS OF 29 21 1005

EXHIBIT  
"F"

1969 APR 21 AM 9 08

TFTORONT09218989 HERGOTT ONTARIO FEDERATION OF AGRICULTURE  
TORONTO 387 *Blouet East Ren 502*  
*Toronto S; Ontario*

SUSPICIONS AROUSED ON 15/30 REARS IF THESE CAN BE AVOIDED

ON FUTURE ORDERS WILL FACILITATE MATTERS PREFERRED SIZES

14/34 12/38 14/30

HAWKINS

COL HERGOTT ~~9218989~~ ~~15/30~~ REARS ~~14/34~~ ~~12/38~~ ~~14/30~~

TEL No. 921-8989 TIME 12:31p  
 TO CM BY CM  
 CALLS LEFT \_\_\_\_\_  
 ATTEMPTS \_\_\_\_\_  
 FILE MAIL DELIVER TLX DFX \_\_\_\_\_

CANADIAN NATIONAL • CANADIAN PACIFIC

**TÉLECOMMUNICATIONS**

CANADIEN NATIONAL • CANADIEN PACIFIQUE

6115B(12-67)

OAC 995

~~TELEPHONE~~

EX. "F"

1969 APR 23 PM 3 11

OAC 996(231047) OTA742 VIA CANADIAN CND203 FOD581 B28

EXHIBIT 4-2

CATO CO GBLB 046

CHESHAM OF 46/44 23 1533

TF 218 8

*387 Bloor East*

HERGOTT ONTARIO FEDERATION OF AGRICULTURE TORONTOONT

UNABLE TO MEET 22ND APRIL FOR AN SHIPMENT ANTICIPATE FIRST  
 SHIPMENT END APRIL EARLY MAY STOP 15/30 TYRES PROOVING VERY  
 DIFFICULT ALMOST IMPOSSIBLE AS THESE FITTED BY MANUFACTURER  
 PERMISSION REQUESTED TO TRANSFER ANY 15/30XS TO 14/34XS.

HAWKINS

COL TF 218 8 22ND✓15/30✓15/30XS✓14/34XS✓

921-8989-3561  
 A.R.H. BY K.B.  
 DELIVER — TLX — DEX —

EXHIBIT 5

R.R. 1 Hillsburgh,  
Ontario.

June 3, 1969

S T A T E M E N T

I, Kenneth Graham, a fieldman for the Ontario Federation of Agriculture, acted in a private capacity as a purchasing agent to buy tractors in the U.K. for <sup>(some)</sup> farmers in Western Ontario, mainly Dufferin and Wellington counties.

On December 25, 1968, I left Toronto Airport for Prestwick, Scotland. My Scottish contact for farm tractor acquisitions was Ian Shepherd of Buckie. His sister was a friend of my wife's. Ian Shepherd, on my behalf, got in touch with several Ford dealers in the Banffshire area. He tried to buy 10 Ford 5000s and two Massey-Ferguson 165 tractors in his own name. The M-Fs were not available because of a union strike.

His local Ford dealer, Elgin Central Engineering Ltd. of Elgin, refused to supply him <sup>1/</sup>. An Elgin Company spokesman (N.S. Matheson, managing director) said his company could not sell tractors knowing they were for export (see attached Exhibit A <sup>2/</sup> and Exhibit B, <sup>3/</sup> para. 4).

However, Mr. Shepherd found a dealer in Inverness, Cordiners, who agreed to supply him with 10 Ford 5000 tractors. But approximately two weeks later (mid-January, 1969), two representatives of the Ford Company visited Cordiners to check on the transaction. They suspected the tractors were for export because of optional equipment not common to the U.K. -- broad tires, power steering and remote cylinder control.

See Exhibit 5-1,  
Now Exhibit 5-2.  
Now Exhibit 5-3.

letter from Mr. Shepherd.  
..... continued

page 2/Graham

The result of this visit was that the Ford Company refused to accept this order, despite the fact that Ford officials were assured the 10 tractors had been ordered by a group of local farmers (see Exhibit C).

It should be realized this story about local farmers buying these tractors sounded rather thin. After all, it was unlikely that 10 rural Scots, noted for their caution and frugality, would buy tractors equipped with what seemed to them such costly extras.

In view of this action by Ford officials, this particular transaction fell through.

While in the British Isles I also made contact with two individuals: John Miller of Kilmaurs, Scotland, and an Irishman who shall remain nameless (his name was withheld since he is still handling tractors for me, most successfully by the way). They were asked to participate in the tractor import program. Both agreed.

In February 1969 John Miller undertook to get me six Ford 5000 tractors. His local dealer, a personal friend, agreed to co-operate. Knowing that Ford Company officials were quick to spot potential export orders, they decided to buy the tractors two at a time, with no signed purchase offer; thus Ford officials would not be able to visit a local farmer and break down his story.

The first two tractors arrived at the dealer's lot. Then came a comedy of errors. A Norwegian businessman arrived and tried to buy the tractors for himself; he saw a potential profit in reselling them in Norway where Ford tractors cost appreciably more than in Britain and Ireland.

..... continued

'page 3/Graham

The dealer declined to make the sale to him. The exact conversation between them is not known. All I know is that an official of the Ford Company arrived on the lot unseen, overheard part of the conversation, and placed an embargo on the sale. This information was gleaned by a trans-Atlantic telephone conversation with Mr. Miller. There is nothing in writing to substantiate it. However, Mr. Miller told me that the Ford Company had recalled the tractors, suspecting an eventual export.

My experience with attempts to import tractors into Ontario did not end in failure. My Irish contact provided me with nine tractors -- seven Ford 5000s, a Nuffield 465, and a David Brown 1200. However, he was unable to get two M-F 165s. The M-F Company suspected export sales.

While my Irish contact managed to convince investigating Ford officials that the ordered Ford tractors would be used locally, the M-F investigators were sceptical. According to my Irish contact, they threatened economic reprisals against his M-F dealer if it were discovered at a later date that the tractors had been shipped out of Ireland. So this particular transaction was called off.

*Kenneth Graham*

(Kenneth Graham)



EXHIBIT 5-1

To: Ken Graham, Esq.,  
R.R. No. 1,  
Hillsburgh, Ontario.  
Canada.

From: I. Shepherd,  
Thorneybank,  
Buckie,  
Banffshire, Scotland.

26.1.69

Dear Ken:

I'm sorry to say I have some very bad news for you. I have tried very hard to make a success of our tractor proposition, but things have not worked out as I had hoped. After many negotiations I came to a very satisfactory agreement with Cordiners of Inverness. They were very keen to make a deal and were most helpful. They were prepared to give 12½% discount which would mean at least £160 below list price for each tractor. Everything seemed fine until yesterday when the bomb dropped! Cordiners phoned me with the news that 2 representatives of Ford Motor Co. had come North to investigate their order because tractors fitted with broad tyres, power steering and single spool control valve are seldom requested in this country. They knew that tractors with these accessories had already been shipped to Canada, and they are evidently checking every order to make sure there is no question of them being exported. The result is that they refuse to accept the order, even although they were told that it was for a group of Scottish farmers.

The Massey-Ferguson tractors have also proved a big problem. I have contacted every Main agent north of Perth, and none could give a guaranteed delivery date before the end of March, because Massey-Fergusons are in very short supply meantime.

So I'm afraid I am up against a stone wall, and much as I regret it, I can do no more, as the firms are afraid of loosing their agency by taking the Manufacturers before the Restrictive Practices Tribunal.

I am really sorry about all this because it will probably mean that you will have to cancel your booking on the first boat, I doubt whether any of your other contacts will have more success, but I do hope so for your sake. If nothing can be done regarding new tractors, I shall be only too pleased to negotiate with Elgin Central Engineers on your behalf, if you are interested in their ex contract hire tractors. I shall make sure that you get a square deal.

I hope you had a good journey home and that you found the family in the best of health, our regards to Ann.

Yours sincerely

(Signed) Ian

(Exhibit A)

EXHIBIT 5-2

**ELGIN CENTRAL ENGINEERS LTD**

AGRICULTURAL &amp; INDUSTRIAL ENGINEERS · MOYCROFT · ELGIN · SCOTLAND

TELEPHONE: ELGIN 3191 (4 LINES)

TRACTORS EQUIPMENT  
INDUSTRIAL EQUIPMENT  
RANSOMES · NEW HOLLAND  
MAIN DEALERS

NSM/LJ

6th January, 1969.

Ian C. Shepherd, Esq.,  
Thornbank,  
Clochan,  
BUCKIE,  
Banffs.

4  
Dear Mr. Shepherd,

Tractors to Canada

With reference to Mr. Forbes' call on you this morning, we are writing to explain the difficulties of our selling new tractors for export abroad. All Ford Main Dealers in the U.K. are under Contract with the Ford Motor Company Ltd. for representation in their own area, and one of the Terms of the Contract is that:

"The Dealer will not export any Ford Products from the Area without the consent of the Manufacturer in writing and will take all reasonable precautions not to sell/offer for sale or otherwise distribute Ford Products to any person firm company or body who or which may intend to export such Ford Products from the Area".

There have been cases of Dealers exporting new Ford tractors involving serious complaints from Dealers abroad with the result that the Ford Motor Company in the U.K. impose a fine on the Dealer of double the retail margin. These cases are not difficult to trace because of the serial number. At the moment, Ford Motor Company Ltd. are conducting a competition among all Dealers in the U.K. in connection with the sale of tractors, and you will appreciate that any breach of the Contract in respect of exports during this period would be regarded as extremely serious.

As I explained this morning, however, we are one of the few Main Tractor Dealers in the U.K. who carry on an extensive business in Contract Hire of tractors. These tractors are under our personal care, and in our own interest, are maintained in first-class condition. It is possible to export tractors around a year old and the prices would be considerably cheaper than new and altogether they are a very attractive proposition. If your friend was interested in purchasing these good as new tractors, they would be thoroughly examined in our own Works before despatch, repainted, and fitted with new tyres and such new equipment as may be required. With regard to price, whereas the basic price of a new 5000 is £1,176 (at our Elgin Works) excluding any special equipment required, we could supply

cont.....

Len C. Shepherd, Esq.

6.1.69

- 2 -

these good as new tractors to you ex our Contract Hire fleet at approximately £1,000. Roadless 4 wheeled drive machines (5000) are also available as well as 4000s, and detailed specifications can be supplied in respect of each tractor.

We shall be glad to hear from you and assure you that if any business materialises the condition of the tractors would be first-class.

Yours sincerely,  
ELGIN CENTRAL ENGINEERS LIMITED

A handwritten signature in dark ink, appearing to read "N. S. Matheson". The signature is fluid and cursive, with a long horizontal stroke at the end.

N. S. Matheson,  
MANAGING DIRECTOR.

(Exhibit B)

EXHIBIT 5-3

**ELGIN CENTRAL ENGINEERS LTD****AGRICULTURAL & INDUSTRIAL ENGINEERS · MOYCROFT · ELGIN · SCOTLAND**

TELEPHONE: ELGIN 3191 (6 LINES)

TRACTORS EQUIPMENT  
INDUSTRIAL EQUIPMENT  
RANSOMES · NEW HOLLAND  
MAIN DEALERS  
NSM/LJ

9th January, 1969.

Ken Graham, Esq.,  
R.R. No. 1,  
Hillsburg,  
ONTARIO,  
Canada.

Dear Mr. Graham,

I write to confirm our telephone conversation last night regarding export of Ford 5000 tractors ex our Contract Hire operation here. I find on examining our records that the new Force 5000, as they are known here, will not be available from Contract Hire until the second half of this year and if you were interested we would write to you then with details of what we could offer.

As I explained, these tractors are put out on Contract Hire for two years but we are in a position to withdraw them at any time. As they are looked after by our own mechanics, we know they are in good condition and would ensure that they were so at the time of export. They would be repainted and fitted with new tyres and whatever new equipment you specifically required. The clock could be put back to zero if so required and invoiced to Mr. Shepherd at the standard new selling price for Customs purposes. The surplus payments could be credited to your account with us and satisfied by sending a "gift" tractor in due course or remitted to a British Bank for your account here. I am sure that we will have no difficulty in dealing with this in some way or another to meet your requirements.

The actual selling price would be substantially less than new and the tractor would represent a very good selling proposition in your country. We would quote a firm price as and when the tractors are available, and as I say this would be in the second half of this year.

With regard to new tractors, as I explained on the telephone, under our Contract with Ford Motor Company Ltd. we are prohibited from exporting, and where a Dealer is "caught out" so to speak, he is liable to pay a sum of 50% of the selling price of the tractor. It is open to doubt whether this clause would hold water if a Dealer referred it to the Restrictive Practices Tribunal, but no responsible Dealer would be prepared to take this risk and prejudice his good relations with Ford. No doubt, such exports do take place and I know from word that they take very strong action against Dealers here on receipt of complaints from their representatives in Canada. What the repercussions could be in Canada you are best able to judge, and I suppose all the farmer is concerned about is the price he pays.

I hope you had a good return journey home and that we may be able to develop business together later on to our mutual advantage.

Yours sincerely,

*N. S. Matheson*  
N. S. Matheson,  
MANAGING DIRECTOR.

NOTE RE EXHIBIT 6

**ONTARIO FEDERATION OF AGRICULTURE**

387 BLOOR STREET EAST

TORONTO, ONTARIO

**MEMO**

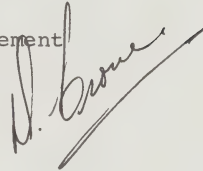
TO: N. B. MacDonald

June 5th, 1969

FROM: David Crone

You will note the first two pages of Mr. Jacklin's statement were typed on a different machine than the last and signed page.

The original of Mr. Jacklin's statement is appended to the documents.

A handwritten signature in dark ink, appearing to read "D. Crone", with a long, sweeping horizontal stroke extending to the right.



R.R. #2,  
Elmwood, Ontario.

June 3, 1969

S T A T E M E N T

I, James Jacklin, President of Bruce County Federation of Agriculture, noting the success of tractor importations by Mr. David Crone, Director or Research and Marketing of the Ontario Federation of Agriculture, felt that Bruce and Grey County farmers could be saved appreciable sums of money if tractors could be bought on the world market.

So, on behalf of their members, Bruce and Grey Federations of Agriculture decided on January 1, 1969, to import tractors from the United Kingdom. Until the end of May, we imported 55 tractors; makes included Fords, Massey Fergusons, David Browns, Nuffields, and Internationals.

Participating farmers signed a purchase order with the Grey-Bruce Federations of Agriculture accompanied by a certified cheque to cover the cost of the desired tractor and import costs. We had far more applicants than we felt able to service adequately.

The first order of 25 tractors was placed through a British farmer. He, in turn, through neighbours and friends placed orders with dealers. Trouble started almost immediately. Dealers and manufacturers, suspecting these tractors were destined for export, refused in some cases to deliver the equipment. When this occurred, he transferred his contact to another farmer, who re-ordered.

Tractors were delivered by dealers to the farms of participating British farmers. Our agent then prepared them for export: plates were welded over serial numbers to prevent detection and tracing back tractors to the original purchasers. However, during transportation, several of these plates were forcibly removed.

We know, however, that while some of these tractors were being unloaded at the C.N. railway station in Hanover, Ontario, on March 10, 1969, a representative of the Ford Motor Company tried to take the serial numbers from these tractors (see attached affidavit)<sup>1/</sup> He identified himself to me by the presentation of a business card.

Upon delivery of these tractors, our British contact (agent) said he could supply more tractors. We proceeded to take orders for an additional 30 tractors of various makes. They were purchased on the same basis as the first order and delivery completed by the end of May.

Problems encountered in our importation program included availability of space on vessels. Shipping companies were reluctant to book space, because other persons booking space had trouble in meeting commitments. This was largely due to the activities of manufacturing companies who did their utmost to thwart the delivery of tractors destined for the Ontario market.

I would like to state that we are most disappointed with the slowness tractors are handled in the Port of Toronto. A shipment arriving on a Thursday was not available for delivery to the customer until the following Friday and Saturday week. Three units were carried over to the following Monday. Farmers were charged an extra \$10.00

---

<sup>1/</sup> Exhibits 6-1 and 6-2.

B.E.2 Elmwood,  
Ontario

DRAFT OF FIRST  
TWO PAGES OF  
EXHIBIT 6

June 3, 1969

S T A T E M E N T

I, James Jacklin, president of Bruce County Federation of Agriculture, noting the success of tractor importations by Mr. David Crone, director of research and marketing of the Ontario Federation of Agriculture, felt that Bruce and Grey county farmers could be saved appreciable sums of money if tractors could be bought on the world market.

So on behalf of their members, Bruce and Grey ~~Federations~~ Federations of Agriculture decided on January 1, 1969, to import tractors from the United Kingdom. ~~From~~ Until the end of May we imported 55 tractors; makes included Fords, Massey Fergusons, David Browns, Nuffields, and Internationals.

Participating farmers signed a purchase order with the Grey-Bruce Federations of Agriculture accompanied by a certified cheque to cover the cost of the desired tractor and import costs. We had far more applicants than we felt able to service adequately.

The first order of 25 tractors was ~~placed~~ placed through a British farmer. He, in turn, through neighbors and friends placed orders with dealers. Trouble started almost immediately. ~~Dealers and manufacturers~~ Dealers and manufacturers, suspecting these tractors were destined for export, refused in some cases to deliver the equipment. When this occurred, he transferred ~~his~~ his contact to another farm<sup>al</sup>, who re-ordered.

..... continued

page 2/Jacklin

Tractors were delivered by dealers to the farms of participating British farmers. Our agent then prepared them for export: plates were welded over serial numbers to prevent detection and tracing back tractors to the original purchasers. However, during transportation several of these plates were forcibly removed.

We know, however, that while some of these tractors were being unloaded at the CNE railway station in Hanover, Ontario, ~~XXXXXXXXXX~~ on March 10, 1969, a representative of the Ford motor company tried to take the serial numbers from these tractors (see attached affidavit). He identified himself to me by the presentation of a business card.

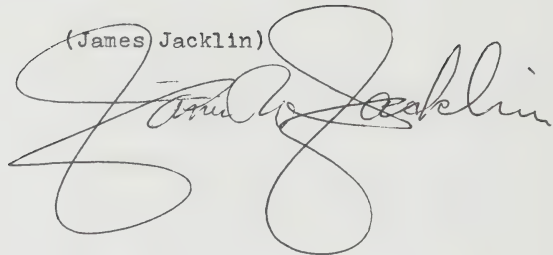
Upon delivery of these tractors, our British ~~agent~~ contact (agent) said he could supply more tractors. We proceeded to take orders for an additional 30 tractors of various makes. They were purchased on the same basis as the first order and ~~XXXXXXXXXXXXXX~~ delivery completed by the end of May.

Problems encountered in our importation program included availability of space on vessels. Shipping companies were reluctant to book space, because other persons booking space had ~~trouble~~ trouble in meeting commitments. This was due largely to the activities of manufacturing companies who did their utmost to thwart the delivery of tractors destined for the Ontario market.

I would like to state that we ~~are~~ are most disappointed with the slowness tractors are handled in the Port of Toronto. A shipment arriving on a Thursday was not available for delivery to the customer until the following Friday and Saturday week. Three units were carried over to the following Monday. Farmers were charged an extra \$10

page 3/Jacklin

per unit for weekend clearance through customs. It seems hard to justify this slowness.

(James Jacklin)  
A large, stylized handwritten signature in cursive script, appearing to read 'James Jacklin', written over the typed name.



Dominion of Canada	}	In the matter of
PROVINCE OF ONTARIO		
COUNTY of		
BRUCE		
TO WIT		

I, PATRICK F. JACKLIN  
of the Township of Brant in the  
County of Bruce, Farmer,

Do Solemnly Declare that

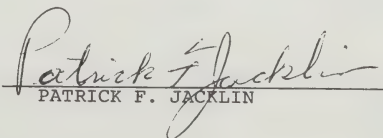
1. On March 10, 1969, I assisted James W. Jacklin to unload twelve Ford tractors and one International tractor from the freight yards in the Hanover CNR freight yards, which tractors were shipped to Hanover from Manchester, England.

2. On arrival the serial numbers on the said tractors were concealed by means of a steel plate welded over the same. While the said tractors were being unloaded by me a representative of the Ford Motor Company came to the yard and attempted to find and record the serial numbers of each of the said tractors but was unable to do so because of the steel plates which were securely welded over the said serial numbers.

3. The next morning, March 11th, on inspecting the tractors I found that a number of the said steel plates concealing the serial numbers had been pried off.

And I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath, and by virtue of the Canada Evidence Act.

DECLARED before me at the Town  
of Chesley  
in the County  
of Bruce  
this 9th day of April  
19 69

  
PATRICK F. JACKLIN

  
A COMMISSIONER, etc.

Dominion of Canada  
PROVINCE OF ONTARIO

COUNTY of  
BRUCE

TO WIT

In the matter of

I, JAMES W. JACKLIN

of the Township of  
County of

Brant  
Bruce, Farmer,

in the

Do Solemnly Declare that

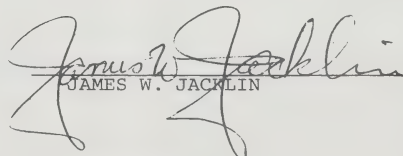
1. On March 10, 1969 I unloaded twelve Ford tractors and one International tractor from the freight yards in the Hanover CNR freight yards, which tractors were shipped to Hanover from Manchester, England.

2. On arrival the serial numbers on the said tractors were concealed by means of a steel plate welded over the same. While the said tractors were being unloaded by me a representative of the Ford Motor Company came to the yard and attempted to find and record the serial numbers of each of the said tractors but was unable to do so because of the steel plate s which were securely welded over the said serial numbers.

3. The next morning, March 11th, on inspecting the tractors I found that a number of the said steel plates concealing the serial numbers had been pried off.

And I make this solemn declaration conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath, and by virtue of the Canada Evidence Act.

DECLARED before me at the Town  
of Chesley  
in the County  
of Bruce  
this 9th day of April  
19 69

  
JAMES W. JACKLIN

  
A COMMISSIONER, etc.



5th Floor, 387 Bloor St. E., Toronto 5, Ontario

Telephone 921-8989

**PURCHASE ORDER**

(PLEASE PRINT CLEARLY)

Purchaser's Name .....

Address .....

Telephone .....

The purchaser agrees to purchase the following equipment (hereinafter called the equipment) in accordance with the Procedure and subject to the Terms & Conditions stated in this order.

Model	Part Number	Description	Quoted Price

The above quoted price is FOB ..... and includes all charges and expenses incurred in delivering the equipment to ..... including — commissions, service charges, insurance, wharfage, ocean transportation, Seaway tolls, land transportation to Toronto or Montreal if required — and is subject to increase as a result of an increase in the list price of the equipment in the United Kingdom or a change in the exchange rate of the British pound sterling.

If an increase in the above quoted price occurs, the purchaser will pay the Federation the amount of the increase, within ten days after the Federation notifies the purchaser of the amount of the increase.

**PROCEDURE**

1. The Ontario Federation of Agriculture (hereinafter called the Federation) will endeavour to arrange for purchase of the equipment in the United Kingdom from a farmer there. The Federation has been informed that equipment dealers in the United Kingdom may be unwilling to sell equipment to Canadian farmers.
2. The Federation will deposit the purchaser's cheque in a special deposit account and will pay the United Kingdom farmer for the equipment when the equipment is delivered by him to the Federation's shipping agent in the United Kingdom.
3. If the Federation is unable to arrange for the purchase of the equipment, the full amount of the quoted price will be returned to the purchaser.

**TERMS & CONDITIONS**

1. As the equipment will not be purchased from a dealer, the purchaser will receive no warranty of any kind and the quoted price does not include any service on the equipment in Canada.
2. The Federation will notify the purchaser of the date on which the equipment will be cleared through Customs at the port of entry into Canada and the purchaser will take delivery of the equipment on that date.
3. If the purchaser fails to take delivery of the equipment on the date notified by the Federation, the purchaser will reimburse the Federation for any charges or expenses incurred by the Federation as a result thereof.
4. The Federation will effect insurance on the equipment while the equipment is in transit on the boat from the United Kingdom to Canada.
5. The purchaser, which term includes his heirs, executors, administrators and assigns, doth hereby remise, release and forever discharge the Federation, its successors and assigns, from all manner of actions, causes of actions, claims or demands which the purchaser ever had, now has or can, shall or may hereafter have against the Federation for or by reason of or in any arising out of any act or omission of the Federation in arranging or endeavouring to arrange for the purchase of equipment by the purchaser from a farmer in the United Kingdom.

---

for The Ontario  
Federation of Agriculture

---

Purchaser

## List of Tables

	Page
Table 2.1 World Production of Wheeled Tractors, Actual and Estimated, 1966. . . . .	4
Table 2.2 Wheeled Tractor Production, United States, by Horsepower Size, 1953 and 1967 . . . . .	6
Table 2.3 U.S. Exports, Wheeled Agricultural Tractors, by Country or Region, and Size of Tractor, 1967. . . . .	6
Table 2.4 World Tractor Production (Excluding Communist Countries), Selected Years 1937 to 1966 . . . . .	8
Table 2.5 World Tractor Production, Massey-Ferguson (Including Predecessor Companies), 1947, 1951, and 1966 . . . . .	8
Table 2.6 Sales Concentration Ratios for Wheeled Tractors, All Canada, by Size Class, 1967 . . . . .	10
Table 2.7 World Production of Combines in 1965, Actual and Estimated. . .	12
Table 3.1 Price Levels in the Farm Machinery Industry in North America. . . . .	15
Table 3.2 Farm Implement Dealer Margins (Excluding Volume Discount), United States and Saskatchewan, 1961 to 1967. . . . .	16
Table 3.3 Farm Machinery Prices at Different Transaction Levels, Selected Countries, 1966-67 . . . . .	19
Table 4.1 Prices of Farm Machinery in Canada as Percentage of U.S. Prices, 1935-36, by Type of Machine . . . . .	21
Table 4.2 Summary of Tractor Suggested Retail Prices, Price Differences and Price Relatives, Averages by Horsepower Group, Various Countries, Generally 1966 or 1967 Selling Season . . . . .	23
Table 4.3 Summary of Tractor Net Wholesale Prices, Price Differences, and Price Relatives, Averages by Horsepower Group, Various Countries, Generally 1966 or 1967 Selling Season . . . . .	25
Table 4.4 Price Differences between Canada and other Countries for Medium-Sized and Large-Sized Tractors, 1967 Selling Season. .	27
Table 4.5 Suggested Retail Price Differences between Canada and other Countries by PTO Horsepower Group, Average Percentage above (or below) Canada, Generally 1966 or 1967 Selling Season. . . . .	28
Table 4.6 Net Wholesale Price Differences between Canada and other Countries by PTO Horsepower Group, Average Percentage above (or below) Canada, Generally 1966 or 1967 Selling Season. . . . .	29
Table 4.7 International Comparison of Combine Prices, Suggested Retail Price (SRP) and Net Wholesale Price (NWP), Selected Companies and Countries, 1966 or 1967 . . . . .	31



	Page
Table 4.8 Comparative Tractor Prices – Canada and Britain Suggested Retail Price (SRP) and Net Wholesale Price (NWP), 1966 to 1969 Selling Seasons . . . . .	36
Table 4.9 Tractor Price Differences, Suggested Retail Prices (SRP) and Net Wholesale Prices (NWP), Britain Higher/(Lower) than Canada, 1966 to 1969 Selling Seasons. . . . .	38
Table 4.10 Tractor Price Relatives, Canada = 100, Suggested Retail Prices (SRP) and Net Wholesale Prices (NWP), 1966 to 1969 Selling Seasons . . . . .	40
Table 4.11 Net Wholesale Price Changes in Tractors, Pre-Devaluation to Post-Devaluation, Major International Companies, Canada and Britain Compared, 1967 to 1968 Expressed as Percentage of 1967 Net Wholesale Price . . . . .	43
Table 4.12 Estimated Cash Savings Achievable by Canadian Farmer by Directly Importing Tractors from Britain, 1967 and 1968. . . . .	44
Table 5.1 Inter-Company Tractor Price Comparisons, Canada 1967 Selling Season. . . . .	48
Table 5.2 Diesel and Gas Tractor Models Sold in Canada, 30-45 HP, Ranked by Price per PTO Horsepower, 1967 Selling Season . . . . .	53
Table 5.3 Diesel Tractor Models Sold in Canada, 45-60 HP and 60-75 HP, Ranked by Price per PTO Horsepower, 1967 Selling Season. . . . .	54
Table 5.4 Diesel Tractor Models Sold in Canada, 75-90 HP and 90-100 HP, Ranked by Price per PTO Horsepower, 1967 Selling Season . . . . .	56
Table 5.5 Diesel Tractor Models Sold in Canada, 100-115 HP and 115-135 HP, Ranked by Price per PTO Horsepower, 1967 Selling Season. . . . .	57
Table 5.6 Differences in Prices in Four-Wheel-Drive Tractors, 1967 Selling Season. . . . .	58
Table 5.7 Comparison of Self-Propelled Combine Prices Canada, 1968 Selling Season. . . . .	59
Table 6.1 Gross Profit Levels at Different Manufacturing Volumes, Agricultural Wheeled Tractors, North American, 1967 . . . . .	62
Table 6.2 Manufacturing Costs and Suggested Retail Price per PTO HP, (Diesel Tractors) Canada, 1967 Selling Season, by Size of Tractor . . . . .	63
Table 6.3 Suggested Retail Prices of Tractors Compared with Tractor Manufacturing Costs . . . . .	65
Table 6.4 Gross Margin for Distribution and other Costs Including Profit, by Size of Tractor and Level of Annual Output, North American Tractor Manufacturing Costs . . . . .	66
Table 6.5 Comparison of North American and European Tractor Manufacturing Costs at 60,000 Annual Output, by Size of Tractor, 1968. . . . .	68

Table 6.6	Comparison of North American and European Tractor Manufacturing Costs at Annual Output Levels of 20,000, 60,000, and 90,000 as of 1967. . . . .	69
Table 6.7	Summary of Price, Cost and Profit Differences, Various Diesel Tractors Sold in Canada and Britain, 1967 and 1968 Selling Seasons . . . . .	74



## List of Appendix Tables

Page

## Appendix A

A.1	Farm Machinery Dealer Discounts by Country, 1966, 1967. . . . .	100
A.2	Canadian Farm Implement Dealers' Operating Margins . . . . .	104
A.3	Manufacturing Cost as Percentage of Net Sales to Dealers for Major Farm Machinery Firms, Worldwide Results. . . . .	106

## Appendix B

B.1	Tractor Suggested Retail Prices and Net Wholesale Prices, Various Countries, North American Based Firms, Generally 1966 or 1967 Selling Season. . . . .	113
B.2	Tractor Suggested Retail Prices, Various Countries, European Based Firms, Generally 1966 or 1967 Selling Season. . . . .	116
B.3	Tractor Suggested Retail Prices, Price Differences, Price Relatives, Various Countries, North American Based Firms, Generally 1966 or 1967 Selling Season . . . . .	119
B.4	Tractor Suggested Retail Prices, Price Differences, Price Relatives, Various Countries, European Based Firms, Generally 1966 or 1967 Selling Season. . . . .	124
B.5	Tractor Net Wholesale Prices, Price Differences, Price Relatives, Various Countries, North American Based Firms, Generally 1966 or 1967 Selling Season . . . . .	128
B.6	Tractor Net Wholesale Prices, Price Differences, Price Relatives, Various Countries, European Based Firms, Generally 1966 or 1967 Selling Season. . . . .	133
B.7	Combine Suggested Retail Prices, Price Differences, Price Relatives, Various Countries, Generally 1966 or 1967 Selling Season. . . . .	137
B.8	Combine Net Wholesale Prices, Price Differences, Price Relatives, Various Countries, Generally 1966 or 1967 Selling Season . . . . .	140

## Appendix C

C.1	John Deere Tractors, 1967 Option Price Comparison . . . . .	144
C.2	Major Tractor Options Included or Excluded in 1967 Tractor Groupings Selected. . . . .	145
C.3	Price and Specification Differences, Four-Wheel-Drive Tractors, 1967 Selling Season. . . . .	148
C.4	Comparison of Self-Propelled Combine Models Sold in Canada, Presented as Competitive in Company Sales Literature, and Used by Commission in Comparing Combine Prices. . . . .	151
C.5	1968 Combine Comparisons . . . . .	152

## Appendix D

D.1	Estimated Tractor Production Costs in North America and Britain . . . .	164
D.2	Estimated "Ideal" Costs of Manufacturing Selected Tractors, United States and Britain, Based on HP Size . . . . .	166
D.3	Adjustments to "Ideal" British Manufacturing Costs for Known and Assumed Cost Differences, e.g. Volume, Importation of Parts Involving Payment of Duty, Newness of Facilities, etc. . . . .	167
D.4	Estimated Production Costs for MF 135 and MF 165 Tractors Produced in Detroit. . . . .	169
D.5	Summary, Estimated Production Costs of Selected Tractors, ex Factory, for Profit Calculations . . . . .	170
D.6	Estimated Cost and Profit Differentials, Ford 5000 8-Speed Diesel Tractor Sold in Canada and Britain, 1968 Selling Season. . . . .	171
D.7	Estimated Cost and Profit Differentials, International Harvester 434 Diesel Tractor Sold in Canada and Britain, 1968 Selling Season . . . .	172
D.8	Estimated Cost and Profit Differentials, MF 165 Diesel Tractor Sold in Canada and Britain (Assuming Production in Detroit and Coventry, Respectively), 1968 Selling Season . . . . .	173
D.9	Estimated Cost and Profit Differentials, MF 165 Diesel Tractor Sold in Canada and Britain (Assuming Production in Britain for Both Markets), 1968 Selling Season . . . . .	174
D.10	Estimated Prices, Costs, and Profits, Various Diesel Tractors Sold in Canada and Britain, 1967 Selling Season Pre-Devaluation . . . . .	179
D.11	Estimated Prices, Costs, and Profits, Various Diesel Tractors Sold in Canada and Britain, 1968 Selling Season . . . . .	180
D.12	Profit Differentials Between Canada and Britain, Selected Tractors, 1967 and 1968 Selling Seasons, Profit Lower/(Higher) in Canada than in Britain. . . . .	181
D.13	Detailed Analysis of Comparative Tractor Unit Manufacturing Costs, North America (United States) and Britain before and after 1967 Sterling Devaluation. . . . .	184



## List of Figures

	Page
Figure 3.1 Distribution System for Major Farm Machines in North America. ....	18
Figure 6.1 Suggested Retail Price and Manufacturing Costs, per Horsepower, Diesel Tractors, Canada, 1967 Selling Season, by Size of Tractor .....	64
Figure 6.2 Tractor Prices, Manufacturing Costs and Gross Margin, Canada, 1967. ....	67
Figure 6.3 Tractor Manufacturing Cost, North America and Britain Compared, 1968, by Size of Tractor .....	70
Figure 6.4 Tractor Manufacturing Cost, North America and Britain Compared, 1968, by Volume of Output .....	71

















Handwritten text in a small, cursive script, likely bleed-through from the reverse side of the page.



Handwritten text in a small, cursive script, likely bleed-through from the reverse side of the page.